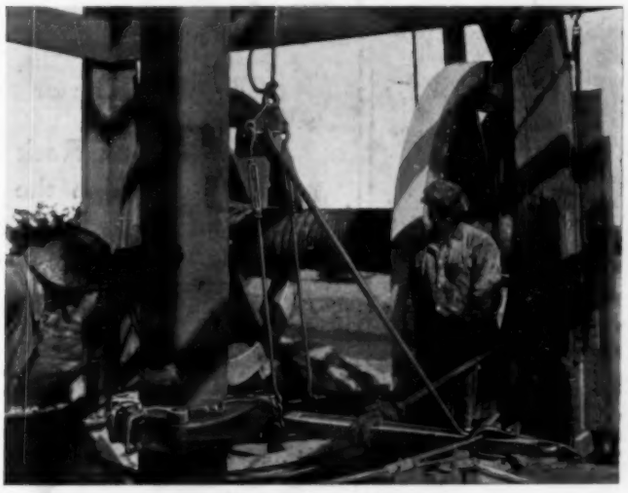
The OIL WEEKLY

10¢ A COPY

December 3, 1926 Volume 43 No. 11

It's a Wilson

Wilson Casing Tongs Never Fail



Equipped with quick changeable oushings.

Work faster than any other tongs.
Swing clear of pipe or casing when unlatched.
Handles can't pinch the fingers.
You don't have to unhook the tongs.

Descriptive literature upon request.

Wilson Oil Tools Corp.
DISTRIBUTORS FOR
Wilson & Willard Mfg. Co.

Factory and Distributor's Office It's a Wilson 2301 East Vernon Ave.
Los Angeles, Calif.

TULSA, OKLA. 409 Atlas Life Bldg. HOUSTON, TEXAS 530 West Bldg. AMARILLO, TEXAS 1501 Polk Street

REED ROTARY DRILLING TOOLS
SPEED · ECONOMY · DURABILITY

Ask the Man Who is Using One

The Double Four-Point Reamer leaves 28% of the hole clear—the Double Three-Point Reamer leaves 35% clear.

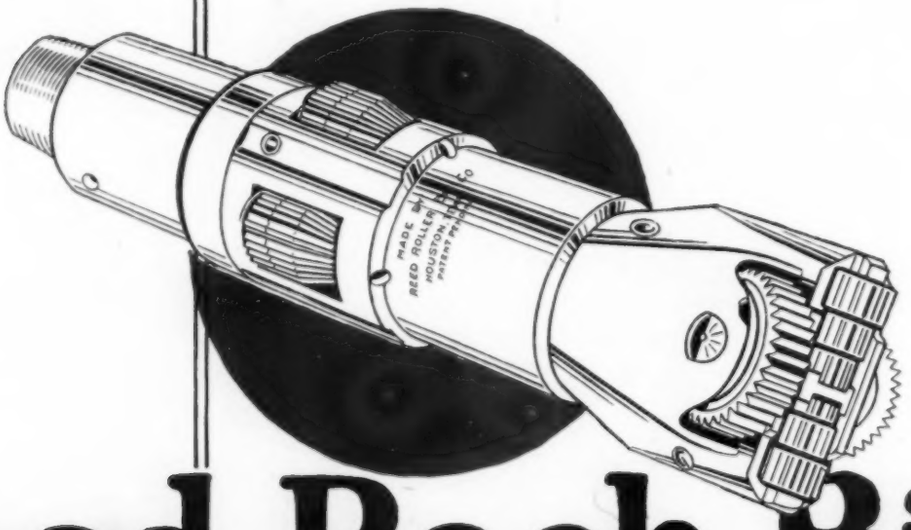
THE PERFORMANCE records of Reed Rock Bits are reflected in the balance sheets of the operators who use them.

These operators are a class of business men who use not only Reed Rock Bits, but every other well-known device that has a reputation for saving either time or money.

As Reed Rock Bits become more widely known, along with the ever extending use of the rotary method of drilling, more and more they are recognized as being a part of the necessary equipment of every drilling rig.

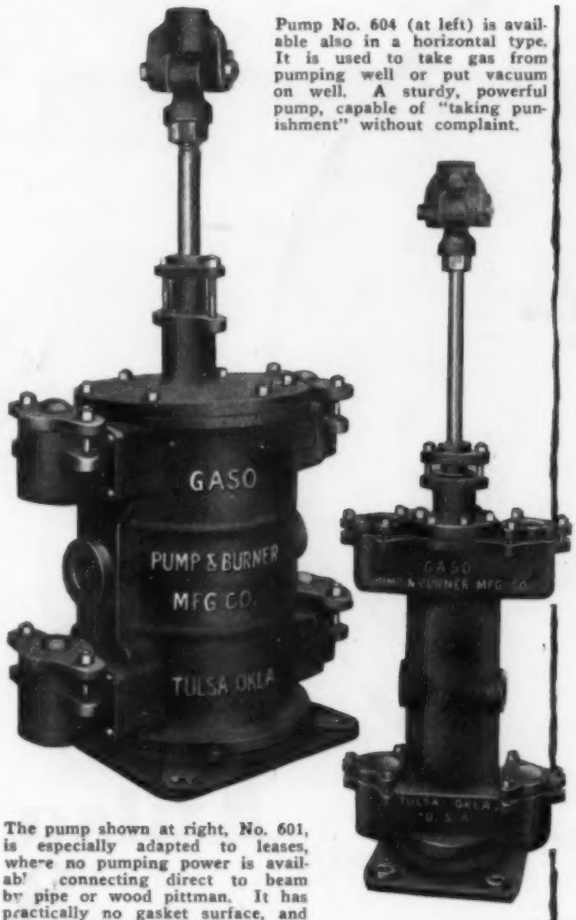
REED ROLLER BIT COMPANY

Houston **Los Angeles**



Reed Rock Bits

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 1716 Dallas Ave., Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.



Pump No. 604 (at left) is available also in a horizontal type. It is used to take gas from pumping well or put vacuum on well. A sturdy, powerful pump, capable of "taking punishment" without complaint.

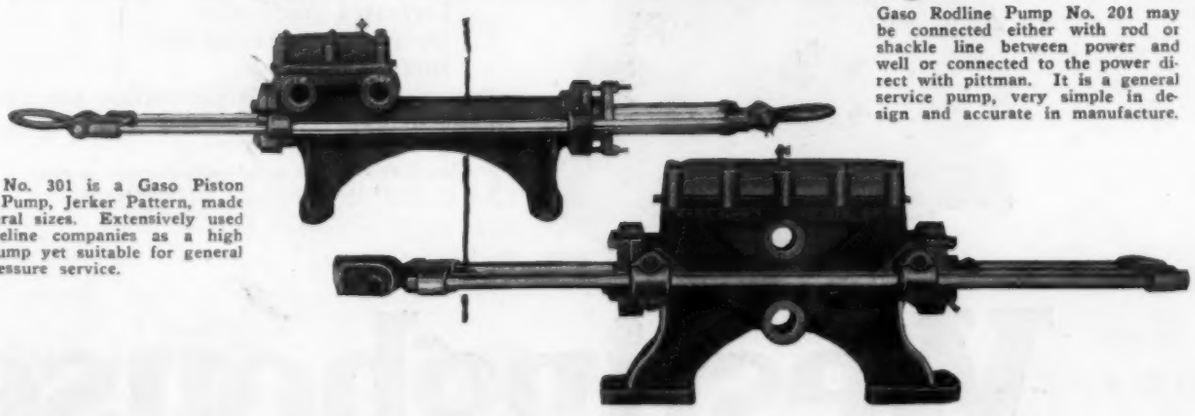
The pump shown at right, No. 601, is especially adapted to leases, where no pumping power is availab' connecting direct to beam by pipe or wood pittman. It has practically no gasket surface, and is designed to permit a straight line pull, reducing wear.

You will like these members of the Gaso family!

The four Gaso Pumps shown on this page were among the first models in the Gaso line. Much of our earlier reputation was based on their performance. As a result, we take particular pride in their manufacture. Everything in the way of design, materials and inspection is done to assure a high grade, long-lasting and smooth-operating product.

GASO PUMP & BURNER MFG. CO.
Tulsa, Oklahoma

GASO PUMPS
for every oil industry need



Gaso Rodline Pump No. 201 may be connected either with rod or shackle line between power and well or connected to the power direct with pittman. It is a general service pump, very simple in design and accurate in manufacture.

Pump No. 301 is a Gaso Piston Power Pump, Jerker Pattern, made in several sizes. Extensively used by pipeline companies as a high duty pump yet suitable for general low pressure service.

In the Mid-Continent there are two companies, each operating 74 oil wells. One uses gas engine drive and produces an average of 8,767 barrels a day. The other, in the same field and under similar conditions, uses electric drive and produces 12,685 barrels a day, a gain of 3,918 barrels a day.
EAST EXTENSION AREA OF THE CROMWELL FIELD
ELECTRICITY PROVES ITSELF DURING NEAR-ZERO WEATHER
The wisdom of the Amerada Petroleum corporation in equipping its 80-acre lease in the north half of the southeast of 16-10-8, the Cromwell field, with electric pumping equipment, was proven good during the recent blizzard. While other properties were more or less shut down because of frozen water and gas lines, the Amerada pumped right along. Only six men are kept on its lease, because the use of electricity enables a reduction in working force.
W
WESTINGHOUSE ELECTRIC

Clipping from
Tulsa Daily World

True Tales *from* Tulsa

THE above clipping shows two of the reasons why electrified drilling and pumping is superior to any other method. Westinghouse motors and control are superior for oil field duties because of—

1. Sturdy Construction—built to withstand oil field service.
2. Liberal Design—takes care of the peak loads encountered in drilling and pumping.
3. Simplicity of operation.
4. Ease of installation.

Installing Westinghouse motors and control assures—

Increased production.
Decreased operating costs
Increased profits

See our nearest district office for full particulars.

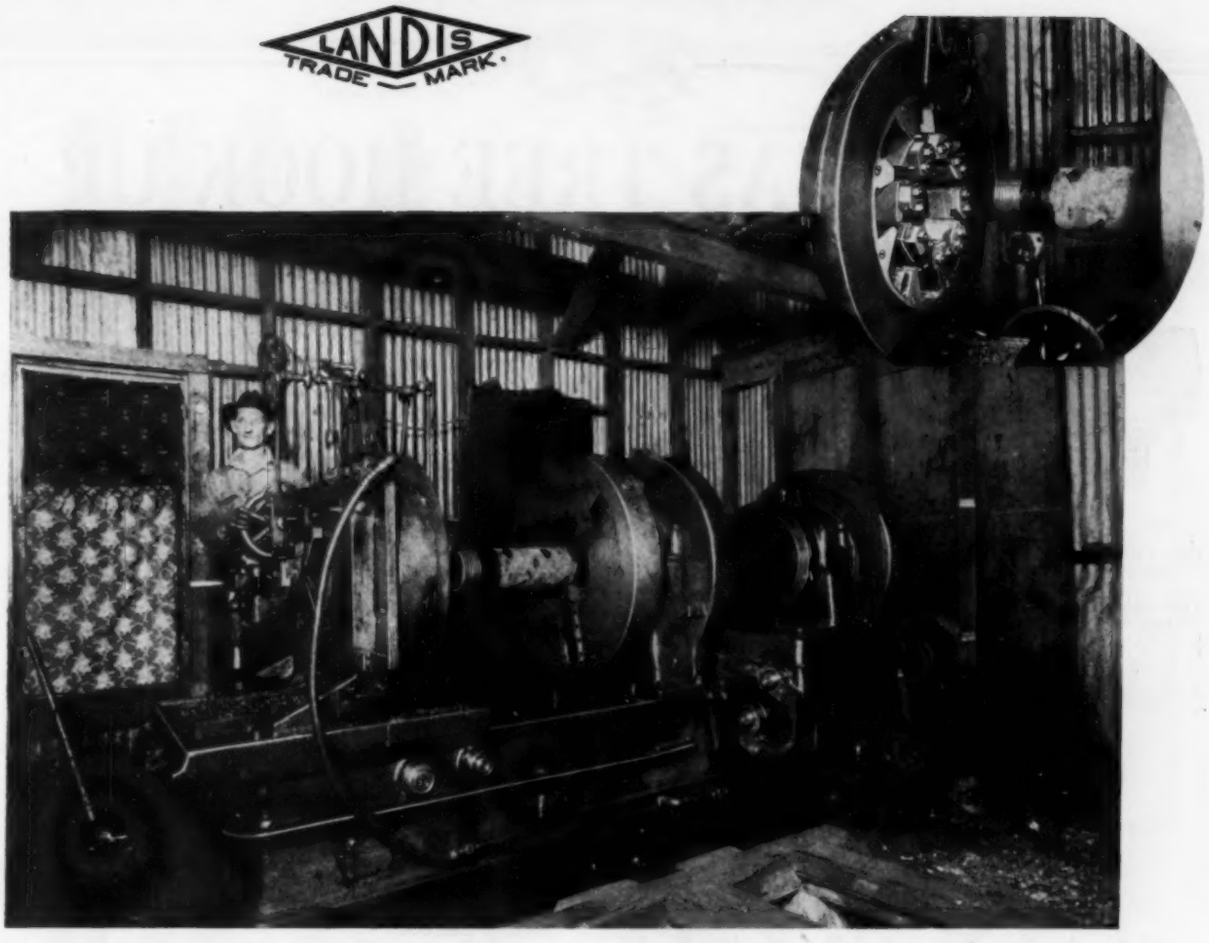
Westinghouse Electric & Manufacturing Company
East Pittsburgh Pennsylvania
Sales Offices in All Principal Cities of the United States and Foreign Countries

Westinghouse

X86887

Say you saw it in The OIL WEEKLY

LANDIS TRADE — MARK



Depend Upon Landis

A weakling has no place in the Oil Fields. This applies to pipe machines as well as to men.

Look at the 12" LANDIS Pipe Threading and Cutting Machine shown in this photograph. It looks powerful and it is powerful. Yet it is designed for quick operation and one operator, with one LANDIS will turn out the work of any two other machines. having the same range of sizes.

You can depend upon LANDIS. They are of the latest design and have features which are distinctive..

The front and rear chucks have universal adjustment.

All gears are cut from steel and run in an oil bath. The gears are big and will withstand hard service.

The machine is reversed by a lever. It is not necessary to cross belts or throw a switch.

The LANDIS Die Head and Chaser have established a reputation for cutting good threads at a profit.

The Texas Pacific Coal & Oil Company, Ranger, Texas, owns this 12", also a 6" LANDIS, to cut their pipe and casing. In fact every pipe shop in Ranger is LANDIS equipped. What does this mean?

LANDIS MACHINE COMPANY, Inc.

Waynesboro, Penna.

Detroit Office: 5928 Second Blvd.

DOMESTIC AGENTS: Marshall & Huschart Machinery Co., Chicago, Ill.; Marshall & Huschart Machinery Co. of Indiana, Indianapolis, Ind.; Colcord-Wright Machinery & Supply Co., St. Louis, Mo.; R. B. Whitacre & Company, St. Paul, Minn.; Hamilton Machinery Co., Chattanooga, Tenn.; Seeger Machine Tool Co., Atlanta, Ga.; Young & Vann Supply Co., Birmingham, Ala.; Woodward Wight & Co., New Orleans, La.; Jos. T. Ryerson & Sons, Houston, Texas; Hendrie & Bolthoff Mfg. & Supply Co., Denver, Colo.; Salt Lake Hardware Co., Salt Lake City, Utah; Herberts Machinery & Supply Co., San Francisco, Calif.; Herberts Machinery & Supply Co., Los Angeles, Calif.; Harry M. Euler Co., Portland, Ore.; Hallidie Machinery Co., Seattle, Wash.; Hallidie Co., Spokane, Wash.; R. S. Armstrong & Bro. Co., Atlanta, Ga.

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OIL WELL ALCO TOOLS
Trademark Reg.

ALCO XMAS TREE HOOK-UP

FOR HIGH PRESSURE WELLS

Combination Steel Tee and Flow Bean

has proven the most practical one in use today. Beans are INTERCHANGEABLE with either Combination or Plain Flow Nipple.

Socket Wrenches to fit Beans are furnished with each pair of Flow Nipples.

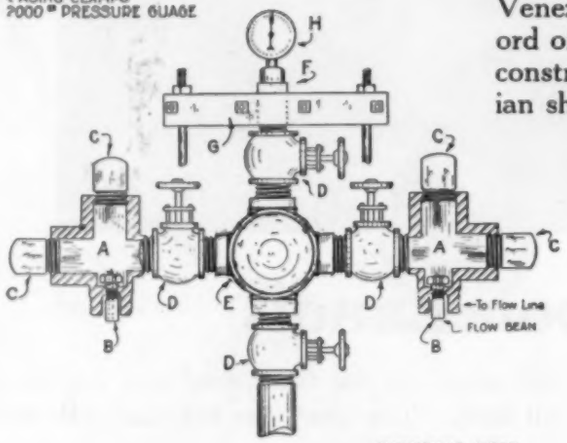
This Combination Tee and Flow Bean eliminates the necessity and cost of additional Tees made necessary in all other types of Flow Beans.

Alco Steel Cross

All ALCO Steel Crosses whether Standard or Special are made from selected steel forgings, the quality of steel most adapted for a given purpose being used.

Standard sizes are carried in stock at all times while special sizes to fit certain requirements are constructed on order.

A- COMB-CROSS TEE & FLOW BEAN
B- FLOW BEAN (Any Size Bore)
C- BULL PLUGS
D- GATE VALVES
E- STEEL CROSS
F- SWABBING NIPPLE
G- CASING CLAMPS
H- 2000 # PRESSURE GUAGE



CHRISTMAS TREE SHOWING ACME FLOW BEAN MANUFACTURERS

ALCO CHRISTMAS TREE HOOKUP

in actual field use on many of the largest and heaviest pressure wells in the California, Mexico and Venezuela Oil Fields for many months with a record of complete and satisfactory service, and have constructed and shipped on special order for Canadian shipment an extraordinarily high pressure **Alco Christmas Tree Hookup to withstand an actual pressure of 2500 pounds to the square inch with an added margin for safety factor.**

ALCO DRILLING BIT

You can make more hole, straighter hole and have less trouble with this Tried and Proven bit. It has 4 cutter blades, 4 circulation holes, is compact, sturdy. The upper blades act as reaming blades, and the lower blades act as guides. The four circulation holes give direct circulation against each of the four blades, preventing balling up and keeping bit cool. No balled bits. Straighter hole. Lower cost per foot of hole. Order a set of these bits today.

Other Alco Products

Alco Core Drill. Alco Flow Nipple. Alco Swedge Nipples. Alco Drill Pipe Float Valve. Alco Set Slide Valve Stem. Alco Flexible Swab. Alco Sucker Rod. Couplings. Alco Bull Plugs.

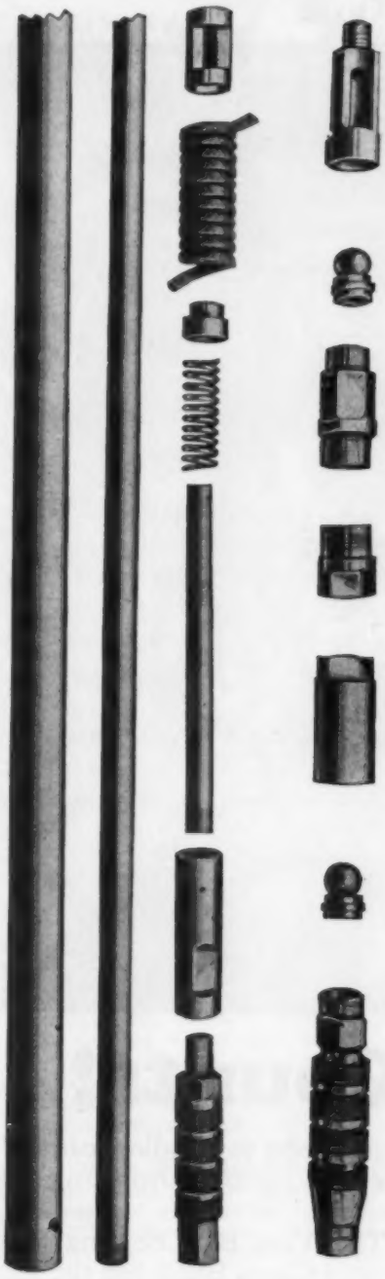
ALCO OIL TOOL CO.

P. O. Box 1188
NEW YORK, N. Y.:
Regan Forge & Engr. Co.,
75 West Street

Compton, Calif.
HOUSTON, TEX.:
Elliott Core Drilling Co.,
3210 Harrisburg Blvd.

Avalon Blvd. and Main
TULSA, OKLA.:
Elliott Core Drilling Co.,
123 East 3rd Street

"If It Is an ALCO Tool It's Modern"



DUO PUMP

A real two-purpose Pump: Simple and sturdy and designed for use where excessive sand is present.

IT PAYS YOUR DEALER TO CARRY A FULL LINE OF HOUGH PUMPING SPECIALTIES IN STOCK BECAUSE IT PAYS YOU TO BUY AND USE THEM FOR THEIR MECHANICAL PERFECTION, THEIR ECONOMY AND THEIR TROUBLE-FREE PERFORMANCE.

RE-PEL-EX

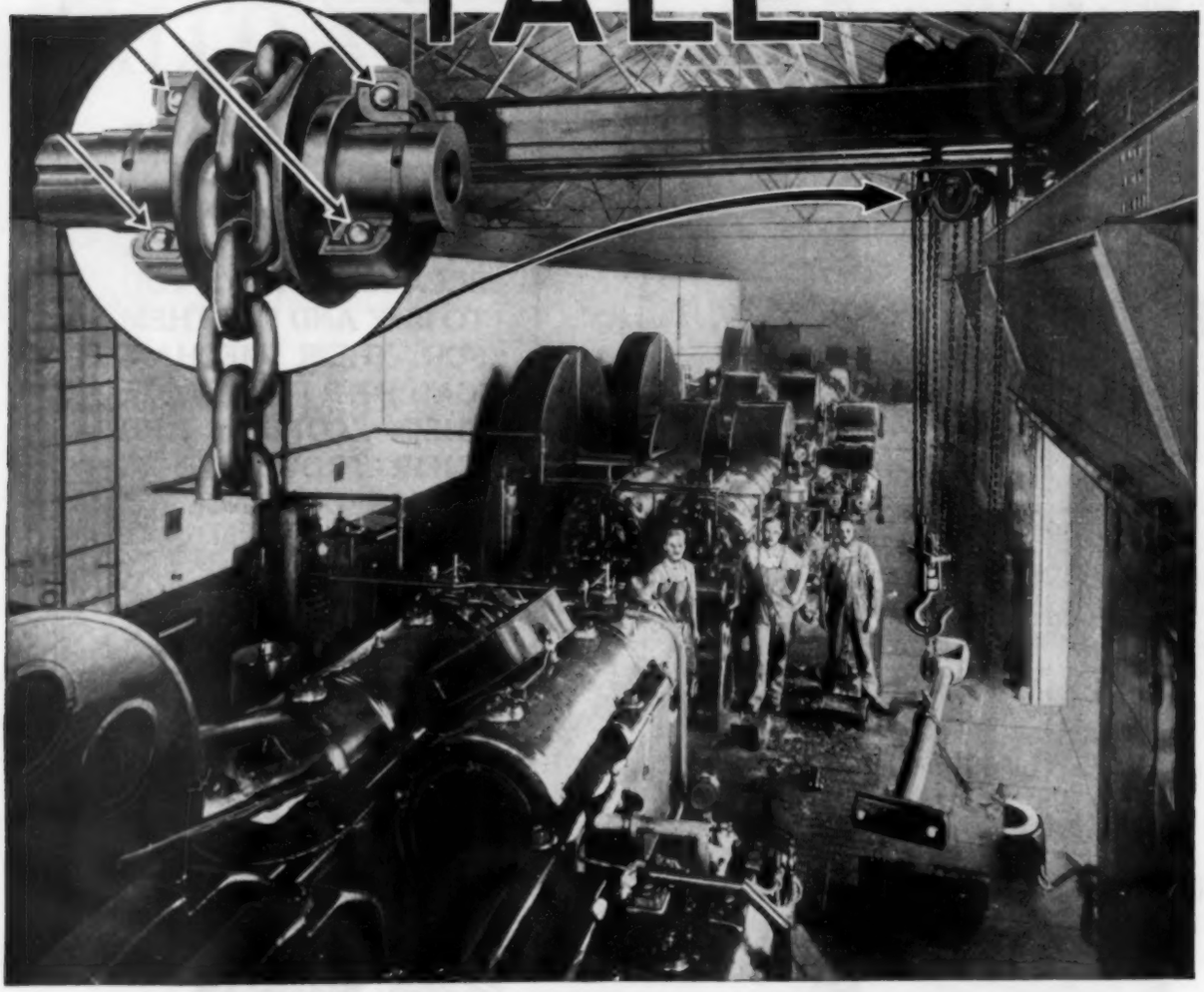
Here is a non-corrosive ball and seat made for use in wells where excessive acid or other strong elements make the use of any other ball and seat a source of trouble and expense.

THE CHARLES N. HOUGH MFG. CO.

Franklin, Pennsylvania

Products that cut down your underground overhead

TRADE YALE MARK



Where Quality Counts!

Yale Material Handling Equipment includes Ball Bearing Spur-Geared Chain Blocks, Screw-Geared and Differential Chain Blocks, Ball Bearing Electric Hoists, I-beam Trolleys, Overhead Crane Equipment, and Electric Industrial Trucks, Tractors and Trailers.

Factory Locking Equipment—To acquire locking control, security and convenience throughout the factory, use Yale Master Keyed Locks.

AT the Prairie Pipe Line Company's pumping stations in Oklahoma, Yale 10-ton Ball Bearing Spur-Geared Chain Blocks have been selected as standard hoisting equipment, possessing the highest efficiency and the greatest strength and overload safety ever built into a chain block.

Quality, in a chain block, is the measure of service.

It means all-around dependability, safety in emergencies, the ability to handle every situation which a chain block could be called upon to handle—*plus the highest possible hoisting efficiency*.

The Yale Ball Bearing Spur-Geared Chain Block has the highest efficiency of any block on the market. A 77 lb. pull on the hand chain lifts a ton—a pull of 132 lbs. lifts ten tons!

When you visit the Fifth National Exposition of Power and Mechanical Engineering Equipment this month, see our exhibit of Yale Material Handling Equipment—Booths 622 and 623.

The Yale & Towne Manufacturing Co., Stamford, Conn., U. S. A.

CANADIAN BRANCH AT ST. CATHARINES, ONT.

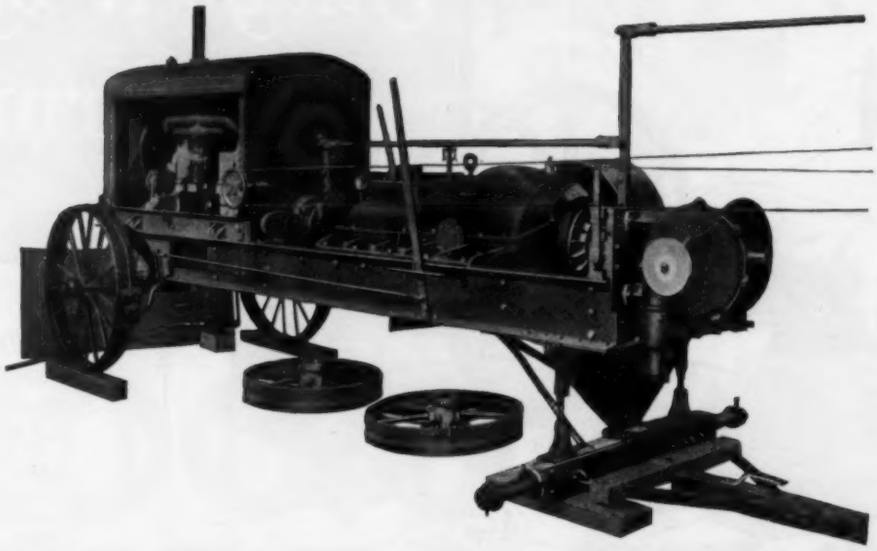
YALE MARKED IS YALE MADE

YALE Hoisting and Conveying Systems

Saves 75% on Fuel and Water

Requires No Foundation

Flexible Easily Moved



Equipped Radiator and Fan with Electric Starter

Complete Power Plant

Remarkable Performance of Young Mounted Gas Drilling Engine Responsible for Its Great Demand

EXCLUSIVE FEATURES

The following advantages have made this engine successful wherever it has been used:

First—This engine sets lengthwise with the belt house, requiring only a narrow grade.

Second—the belt pulley is on the left side and is overhung. There are no bearings to interfere with putting on and taking off the belt or to tear it. This pulley is large with 13 inch face giving a large belt contact and eliminating the necessity of running with a tight belt.

Third—This is the only gas drilling engine on the market equipped with a low speed gear, especially valuable when it is necessary to pull three strings of tools to start a long heavy string of casing, tubing or packer.

Fourth—The engine is four cycle, four cylinder. Not having a heavy flywheel it has a quicker getaway and a flexibility not found in others.

Fifth—It uses less than one-half the fuel required by a two cycle engine, and can be operated economically on gasoline, which is not possible with a two cycle engine.

Sixth—To furnish air for the forge, these machines are equipped with a variable speed friction driven blower of large capacity. An emery wheel for grinding small tools is furnished.

Seventh—There is no foundation needed.

Eighth—This being a complete unit mounted on truck, it is easily moved.

Ninth—The regu'ar equipment of the YOUNG MOUNTED GAS DRILLING ENGINE includes radiator, friction driven blower, electric generator, starting motor and storage battery, whereby the engine can be easily and quickly started.

Tenth—The clutch is of double disc type, of large capacity, easily adjusted.

Eleventh—Motor is encased in hood, which when locked completely covers the motor.

This unusually efficient machine is ideally adapted for wildcat work. It is made in three sizes: Models 50, 75, and 100, weighing 5,800 pounds, 7,000 pounds and 8,000 pounds. On wheels, it is easily and economically moved and quickly set up. No foundation timbers required—just a few pieces of plank and a bunting pole, and you're ready to go!

Ask for Our Catalog O-4, and Prices

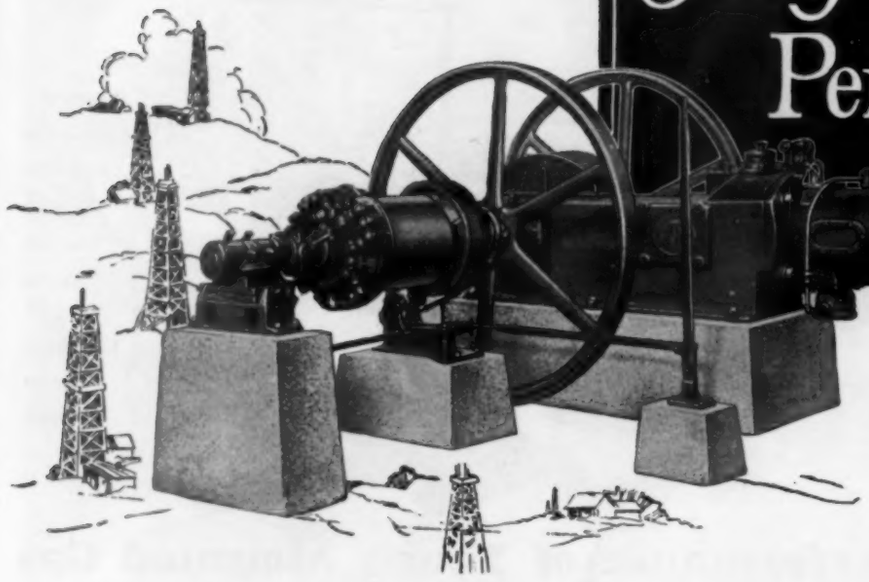
THE YOUNG ENGINE CORP.

Canton, Ohio

Formerly The W. T. Young Engine Company

Oil City, Pa.

Judge it by it's Performance



IT is performance on the job that determines the dollar for dollar value of an oil field engine, and it's on this basis that we want you to judge for yourself whether the Bessemer Oil Field Engine isn't by far the best you can buy.

Of course, it is Bessemer's outstanding features of construction that make their performance so remarkable—that and the quality of the materials and workmanship that go into them to insure long life. No engine can out-perform its weakest part, and on the Bessemer *every* part is built to stand up under the longest, hardest service to which it can be subjected.

See some of these engines in service, and you will quickly understand why it will out-work and out-perform any other engine of its type.

THE BESSEMER GAS ENGINE COMPANY
62 York Street ∴ ∴ Grove City, Pa.

Sixteen outstanding features make the new Bessemer YOUR ideal oil field engine—

1. Entirely enclosed bed plate.
2. Air valve on top of bed plate.
3. Efficient Bessemer governor.
4. Wico ignition.
5. Sight feed glass through which crankcase oil continually circulates.
6. 6-inch exhaust on 25, 30 and 35 H.P. engines.
7. Adjustable and removable main bearings.
8. Counterweights on crankshaft, giving perfect balance on crank.
9. Splash lubrication to crank, crosshead and main bearings.
10. Large, quickly removed side plates give easy access to adjustable crosshead.
11. Bored crosshead with adjustable bronze shoes.
12. Outside bolting, cylinder readily removed.
13. Easy to clean water jacket. An easily removed plate on either side of cylinder permits quick access to water jacket space.
14. Force feed lubrication operating from same eccentric as ignition.
15. Cleanout type cylinder head. Entire front of cylinder head removable, exposing water jacket.
16. Over-strength construction in *every* part, insuring extra years of service.

BESSEMER

BESSEMER OIL FIELD ENGINES – COMPRESSORS VACUUM PUMPS – ROLLER PUMPING POWERS

Say you saw it in The OIL WEEKLY

A word about

$100,000.00 VALVES

You wouldn't willingly pay one hundred thousand dollars for a cheap second hand valve—yet that is exactly what it costs when your bargain valve breaks and your well goes up like "Old Faithful Geyser" in Yellowstone Park.

The best way to get all the oil that's coming to you is to specify Kerotest—the world's standard drilling valve. Every Kerotest Heavy Duty Drilling Valve is certified by the Pittsburgh Testing Laboratory after the valve has been subjected to the famous Kerosene test under 2500 lbs. pressure.

Your crews, your wells and your investment deserve the best valves and fittings you can buy.

Always specify *Kerotest* and play safe.

KEROTEST MANUFACTURING CO.
PITTSBURGH, PENNA.

Carried in stock and sold by

GRINNELL COMPANY OF THE PACIFIC
Los Angeles San Francisco

OIL WELL SUPPLY COMPANY
Oklahoma Kansas Colorado Wyoming

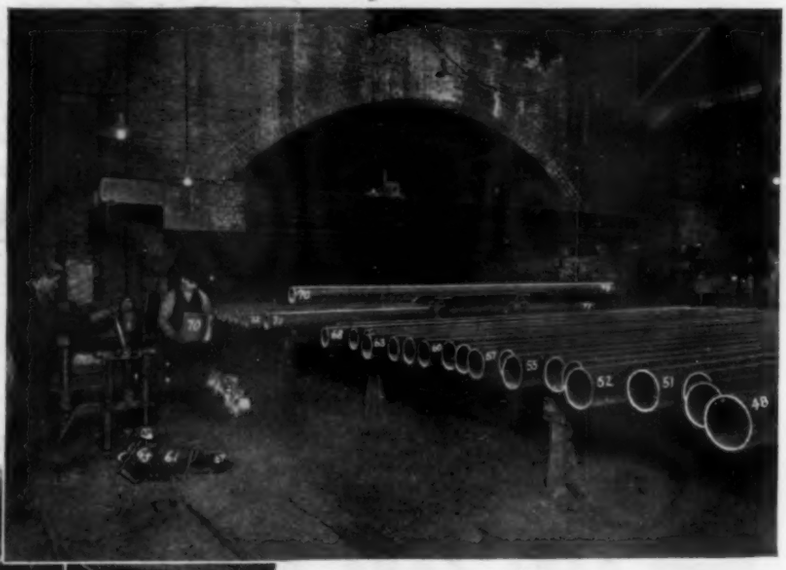
Export Distributors

NORVELL-WILDER HARDWARE COMPANY
Houston Beaumont Shreveport Fort Worth

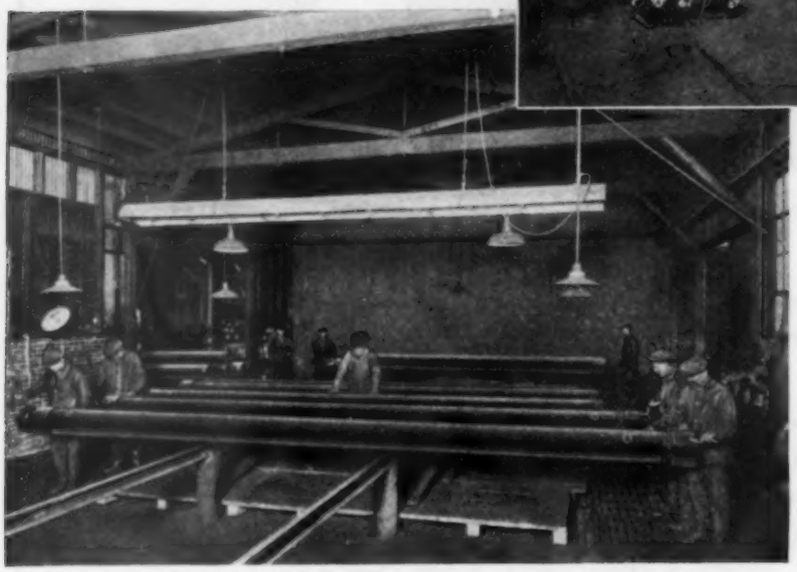
OIL WELL SUPPLY COMPANY
Pittsburgh New York Tampico London

VALVES KEROTEST **FITTINGS**

Instead of making one Crop-End Test on every few lengths, Chester makes two tests on every length, one on each end. Duplicate numbers are then compared—perfect lengths go to the oil fields—the others are scrapped.



Only after a length has successfully passed the weight test, drift test and sizing of thread tests, does it get an O. K. by Chester inspectors.



Some of the Reasons for

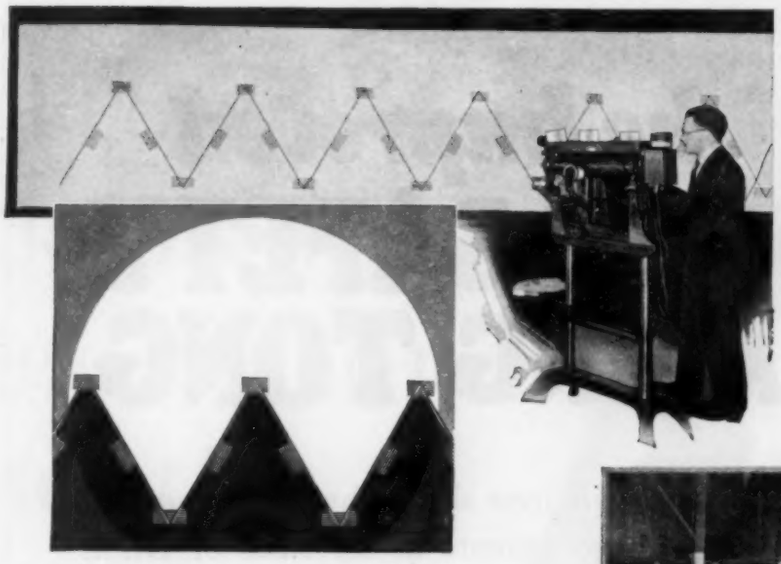
It is painstaking thoroughness in every detail of manufacture which has given Chester Casing, Pipe and Tubing such a good name *in the field,* where consistently dependable performance is best appreciated.

Every joint of 2″ line pipe to 12½″ casing made by Chester is as nearly perfect as modern machinery and long experienced workmen can make it. You may buy one trainload or ten trainloads of Chester Casing, Pipe or Tubing and be

CHESTER

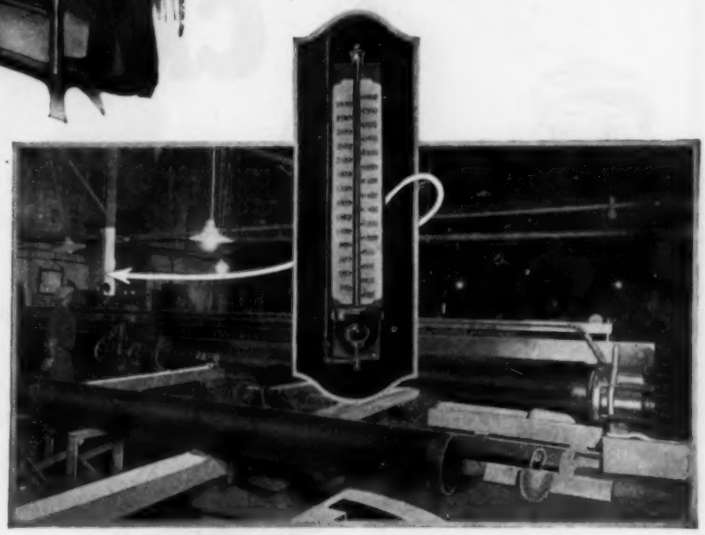
STEEL CASING

SPECIALISTS IN CASING FOR DEEP WELL DRILLING



This powerful projector throws on the screen an image of Chester threading magnified 200 times. Frequent comparison of thread samples with the chart keeps the threading uniform and accurate.

Knowing the unreliability of spring pressure gauges, Chester has installed mercury columns on its hydraulic testers so that there is no "guess work" as to the amount of pressure on each tube. This is just one of the many precautions which Chester takes to insure the utmost dependability.



Chester's High Quality

sure of the uniformly good quality of every length, resulting from the extreme care used in the manufacture of Chester products.

SOUTH CHESTER TUBE COMPANY
Chester, Pa.

PITTSBURGH NEW YORK HOUSTON TULSA LOS ANGELES

Also makers of Wrought Iron Casing from 4½" to 12½"

District Sales Managers

W. E. Gibson, 801 Columbia Bank Bldg., Pittsburgh, Pa.

P. N. Guthrie, Jr., 30 Church St., New York, N. Y.

J. P. Cooney, 909 A. G. Bartlett Bldg., Los Angeles, Calif.

E. H. Bosches, 2024 Houston Post-Dispatch Bldg., Houston, Texas

Distributors

Prichard Supply Co., Mannington, W. Va.

Petroleum Supply Co., Houston, Texas, Norphlet, Ark.

Wagner Supply Co., Fort Worth, Cross Plains, Panhandle, Breckenridge and Best, Texas

United Oil Well Supply Co., 908 A. G. Bartlett Bldg., Los Angeles, Cal.

Hillman-Cooney, Inc., 1118 Santa Fe Ave., Los Angeles, Cal.

Midland Iron Works, Billings and Kevin, Mont.

Warehouses at Houston, Texas; Thenard, Cal.

CHESTER

STEEL CASING

SPECIALISTS IN CASING FOR DEEP WELL DRILLING

DUNN TOOLAGRAM

The Improved DUNN SAFETY CASING TONG

The reproductions shown here illustrate recent improvements in all sizes of Dunn Safety Casing Tongs. Always universally recognized as the world's standard, these tongs now have numerous added features and we guarantee greatly increased value and satisfaction.

1. A new method of suspension positively holds tong in perfect balance AT EVERY POSITION, OPEN OR CLOSED.

2. The complete suspension fits on any Dunn Casing Tong handle by simply placing the link on handle and locking it in position with set screw, and will greatly improve and facilitate the handling of your present Dunn Tongs, no matter how ancient.

3. A new safety latch, which is adjustable and a part of the suspension, POSITIVELY LOCKS THE TONG ON PIPE, and also serves as a ratchet lock in making up casing or for automatic cat-head in breaking rotary tool joints.

With this perfect balance under all conditions, together with the new conveniently placed handgrips, these tongs are unsurpassed for safety, speed and convenience in handling.

Another exclusive and unique suspension, which locks on the pipe and holds the tong may now be had where double table rotary is used in making up casing. We, also, now furnish Dunn Safety Casing Tongs with special short handles for use on make and break rotary posts of other manufacturers.

All hinge-pins are now made of a most unusual steel especially heat-treated, reducing bending and breaking to an absolute minimum.

Principal parts are made stronger, but remain interchangeable with all tongs previously made.

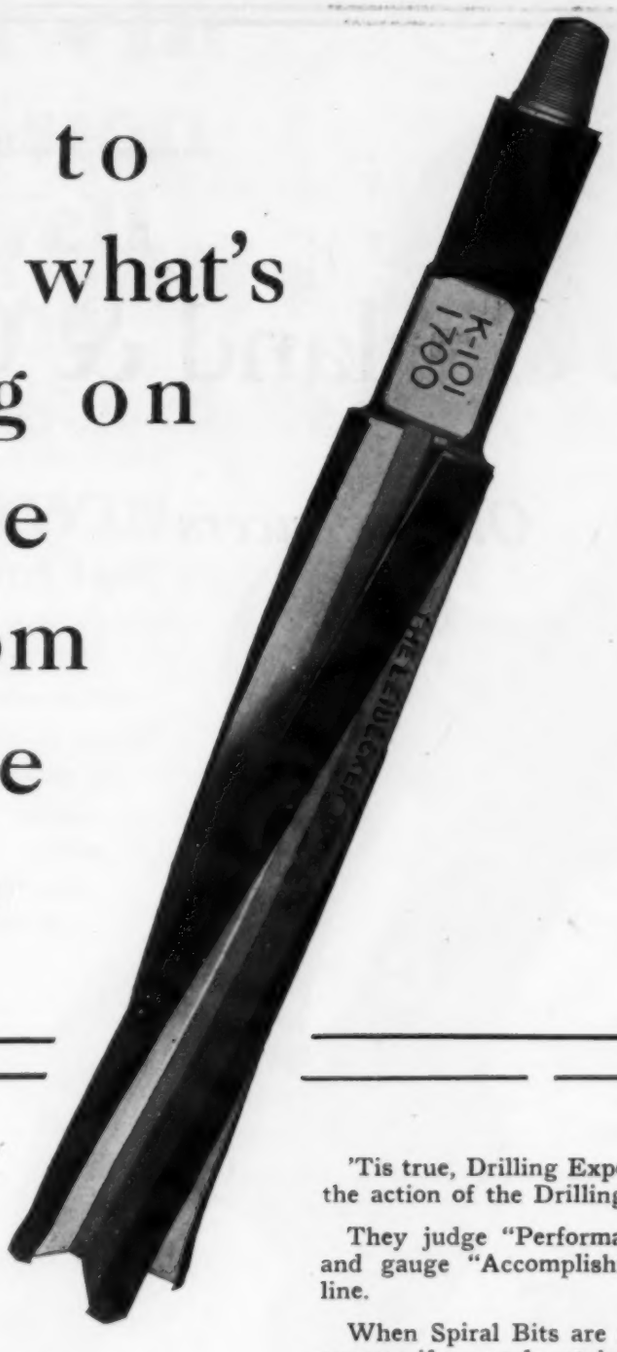
These improvements are additional evidence of Dunn accomplishments where Safety, Strength, Speed, Durability and ease of handling are demanded

DUNN
MANUFACTURING COMPANY
OXNARD, CALIFORNIA

Mid-Continent Branch Warehouse
215 East Archer St. Tulsa, Oklahoma

Export Sales Office
150 Broadway, New York City

How to know what's going on at the Bottom of the Hole



The spiral design lends a rotary motion to the bit which mixes mud more effectively in a wet hole and relieves the tendency to stick and dive.

This tool with its two cutting edges and four cutting points offers features of speed for every drilling well.

LEIDECKER

SPIRAL BITS

Patented
Other Patents Pending

'Tis true, Drilling Experts can tell you a lot from the action of the Drilling Line at the surface.

They judge "Performance" by the drilling line and gauge "Accomplishment" by the measuring line.

When Spiral Bits are on the job performance is more uniform and certain. The saving is noticeable to the drilling line and the figures are larger on the measuring line.

The practical design of Spiral Bits holds no mystery for the expert driller, their action in use can be determined without pencil or paper. Try it.

Faster, Easier, Straighter.

Carried in Stock and Sold by up-to-date Supply Stores

Manufactured by

THE LEIDECKER TOOL COMPANY, Marietta, Ohio

Bartlesville, Okla. Basin, Wyoming Casper, Wyoming

Bovaird Supply Co., Mid-Continent Distributors, stores at Tulsa, Sapulpa; Beggs, Bristow and Seminole, Oklahoma, and Borger, Texas.

Export Office: 90 West St., New York City

Say you saw it in The OIL WEEKLY

R. F. Garland & Co.

Oil Producers

OFFICES

1201-6 Atlas Life Building
TULSA, OKLAHOMA

Baldwin Precision Oil Well Chains

"Accurate to the thousandth of an inch

BALDWIN 1030S and 1240

Heavy Duty Oil Well Chains—Pins and Bushings case hardened and ground to exact size."

"Performance counts—Baldwin oil well chains are actually giving satisfaction to the driller under most severe conditions "Others are pleased, why not you."

Ask for Bulletin No. 32

Our engineers will gladly assist with your problem.

A customer having a set of these chains in use more than eight months, *running continuously night and day*, says:

"If they are worn anywhere, we cannot find it."

These Chains Will Last Longer

BALDWIN CHAIN & MFG. CO.
WORCESTER, MASS.

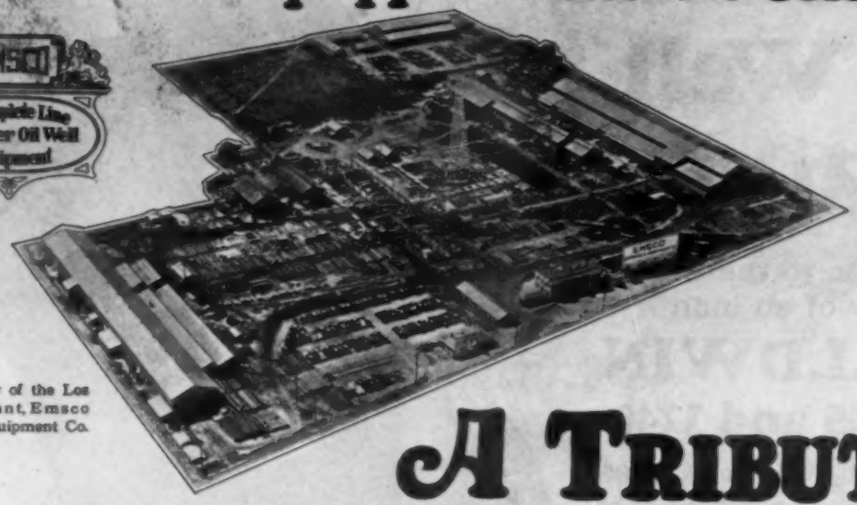
In Stock at Leading Supply Houses

DISTRIBUTORS:

George J. Fix Company, 815 So. Ervay St., Dallas, Texas. Los Angeles, Cal., The Adam-Hill Co., 637 So. San Pedro St. San Francisco, Cal., The Adam-Hill Co., 96 Ninth St. Lucey Mfg. Corporation of Tulsa, Healdton and Tonkawa. International Supply Co at. Okmulgee, Wewoka and Stroud. T. T. Word Supply Company, Houston, Beaumont, Texas, Shreveport, La., and El Dorado, Ark.

Emsco Steel Equipped Wells *are* SAFE

EMSCO
A Complete Line of Better Oil Well Equipment



Airplane view of the Los Angeles plant, Emsco Derrick & Equipment Co.

A TRIBUTE To SERVICE RENDERED

DURING the four years since the inception of this company the rapid growth of the Emsco Derrick & Equipment Company has been nothing short of phenomenal. We attribute this solely to our sincerity of purpose in serving the petroleum industry through the medium of exceptional products, to the quality and superiority of these products in actual service, and to the tremendous popularity which naturally has followed the introduction of these modern, improved devices throughout the oil fields of the world.

Emsco can "steel-equip" an oil well in its entirety, and a well so equipped is protected from all destructive elements as far as it is humanly, scientifically and mechanically possible.

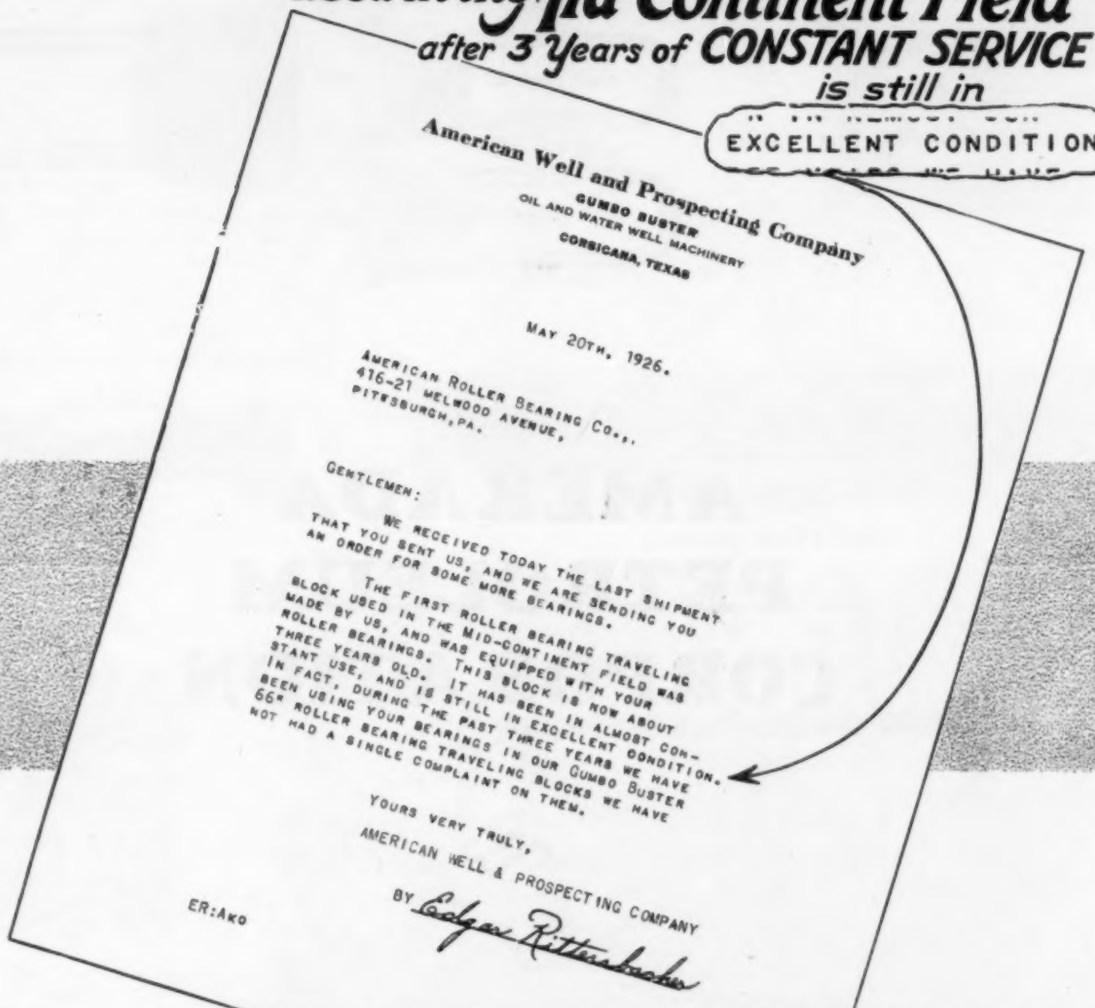
EMSCO
Derrick & Equipment Company
Los Angeles ... California
Houston ... Texas
New York Office: 150 Broadway

A COMPLETE LIST OF EMSCO PRODUCTS

Beams, Steel Walking
Beams, Flow
Bits, Rotary Drilling
Blocks, Casing and Tubing
Blocks, Crown
Boxes, Stuffing
Breakers, Rotary Bit
Bushings, Rotary Drill Stem
Casing, Stove Pipe
Catheads, Fixed and Friction Clutch
Chain, Sprocket
Clamps, Rotary Hose
Cocks, Drill Pipe Blow Out
Collars, Drill
Counterbalances, Band Wheel
Countershafts, Oil Well for Electric Motor
Couplings, Swivel and Drill Stem
Collars, Rotary Die
Derricks, Steel
Drawworks, Rotary
Drilling Machinery, Oil Well
Elevators, Special for B. P. M. Casing
Engines, Gas and Distillate
Fishing Tools, Rotary
Flanges, Forged Steel
Flume, Mud, Steel
Gears, Reduction for Electric Motors
Gears, Reverse, Gas Engine
Grip Ring Devices for Rotary
Hangers, Walking Beam
Heads, Cement
Heads, Circulating
Hoists, Rod and Tubing
Hooks, Spring Casing
Hooks, Wall
Irons, Center
Irons, Rig
Jacks, Chain
Joints, Tool
Machinery, Oil Well Drilling
Mud Ditch, Steel
Mills, Rotary
Overshots
Perforators, Casing
Pitmans, Steel
Preventors, Blowout
Pullers, Liner and Seat
Pulleys, Countershaft and Engine
Pumps, Split Case Oil Line
Pumps, Slush—Power Driven
Pumps, Slush—Steam Driven
Reels, Sand—Chain and Friction Drive
Rig Irons
Rotary Machines
Shoes, Casing
Slips, Rotary Drill Pipe
Spools, Steel Cable and Sand Line
Sprockets, for No. 3 and No. 4 Chain
Stems, Square Rotary Drill
Substitutes, Rotary Tools
Swivels, Rotary
Tools, Rotary Drilling and Fishing
Taps, Fishing
Underreamers, Rotary Expansion
Wheels, Steel Band
Wheels, Steel Bull
Wheels, Steel Calf
Winches, Clark

The 1st Roller Bearing TRAVELING BLOCK

used in the Mid-Continent Field after 3 Years of CONSTANT SERVICE is still in EXCELLENT CONDITION.



American Well and Prospecting Company
GUMBO BUSTER
OIL AND WATER WELL MACHINERY
CORSICANA, TEXAS

MAY 20TH, 1926.

AMERICAN ROLLER BEARING CO.,,
416-21 MELWOOD AVENUE,
PITTSBURGH, PA.

GENTLEMEN:

WE RECEIVED TODAY THE LAST SHIPMENT THAT YOU SENT US, AND WE ARE SENDING YOU AN ORDER FOR SOME MORE BEARINGS.

THE FIRST ROLLER BEARING TRAVELING BLOCK USED IN THE MID-CONTINENT FIELD WAS MADE BY US, AND WAS EQUIPPED WITH YOUR ROLLER BEARINGS. THIS BLOCK IS NOW ABOUT THREE YEARS OLD. IT HAS BEEN IN ALMOST CONSTANT USE, AND IS STILL IN EXCELLENT CONDITION. IN FACT, DURING THE PAST THREE YEARS WE HAVE BEEN USING YOUR BEARINGS IN OUR GUMBO BUSTER 66" ROLLER BEARING TRAVELING BLOCKS WE HAVE NOT HAD A SINGLE COMPLAINT ON THEM.

YOURS VERY TRULY,
AMERICAN WELL & PROSPECTING COMPANY
BY Edgar Rittenbacher

ER:AKO

ANY BLOCK-TRAVELING-OR CROWN-ANY REVERSE CLUTCH, HOIST OR WINCH, EQUIPPED WITH

AMERICAN HEAVY DUTY TYPE "C" ROLLER BEARINGS

WILL RUN FASTER AND SMOOTHER AND LONGER THAN SIMILAR EQUIPMENT HAVING ONLY PLAIN BEARINGS.

LARGEST MANUFACTURERS OF ROLLER BEARINGS FOR INDUSTRIAL PURPOSES

AMERICAN ROLLER BEARING CO.
PITTSBURGH, PENNA.

SPECIALISTS IN PRODUCTION OF ROLLER BEARINGS FOR THE OIL INDUSTRY

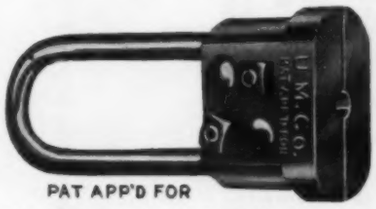
GENERAL OFFICES
65 BROADWAY NEW YORK

AMERADA PETROLEUM CORPORATION

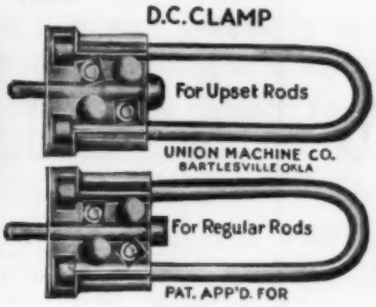
PETROLEUM BUILDING
TULSA, OKLAHOMA

Look 'em Over

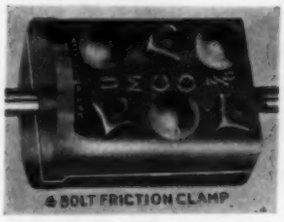
DURNELL SAFE COMBINATION CLAMP



Features—Wide "U" U-heads cannot slip. Smooth knock off face. Made for upset and regular pull rods.



6 BOLT FRICTION CLAMP

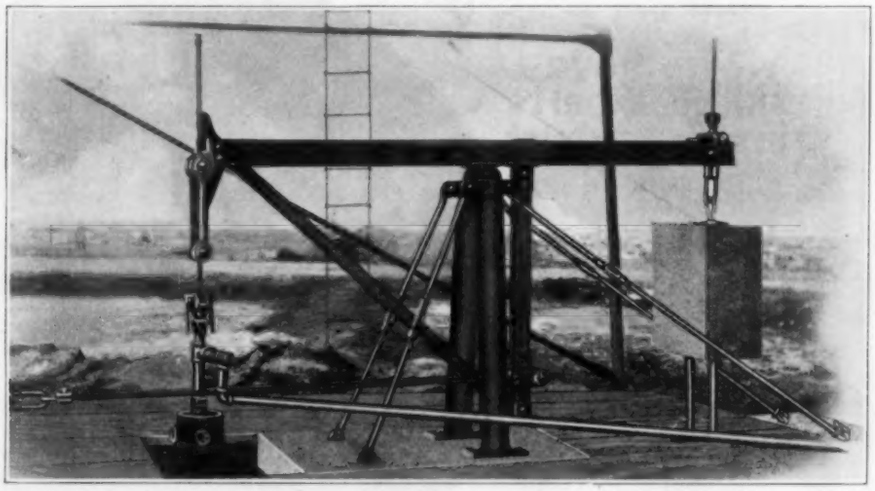


DURNELL KNOCK OFF BLOCK

THE ORIGINAL MADE OF IRON

SIMPLE, IS IT NOT?

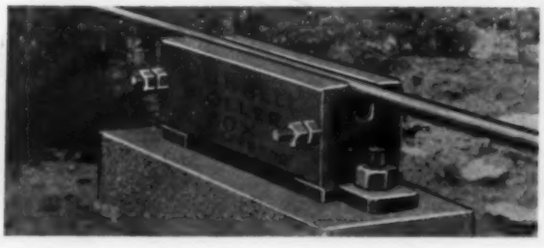
Stirrup Box for 6⅝ Casing Swings, Closed or Open End



DURNELL COUNTERBALANCED PUMPING BEAM

Patent Applied For

Pumps Easier, Long Stroke. The weight does the work. Saves rod lines.



CHEAPER THAN WOOD

UNION MACHINE CO.

BARTLESVILLE, OKLA.

Installation Cost Almost Nothing

...we have skilled experts in every district

Buy a Few Drums— Start Treating

You sidestep the **burden** and **risk** of a heavy initial investment—when you decide to treat your cut oil and tank bottoms by the Tret-O-Lite Process.

Our nearest field man will call, test your oil, and recommend the proper grade of Tret-O-Lite. He will be glad to suggest the simplest and most economical method of treating your particular oil.

This is one of many reasons why Tret-O-Lite is the world's leading method of treating cut oil. Two other reasons are the extremely low cost of treating and the fact that **every drop** of petroleum is recovered. Send for our nearest field man. His service costs you nothing.

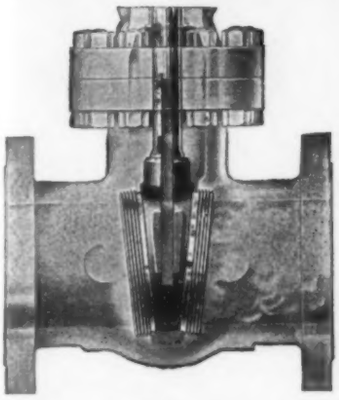
WM. S. BARNICKEL & CO.
ST. LOUIS, MO.
Offices and Plant:
Webster Groves, St. Louis County, Mo.

Tret-O-Lite

Reg. U. S. Pat. Off.

Say you saw it in The OIL WEEKLY

Accurately Machined Guides Protect Seat Faces



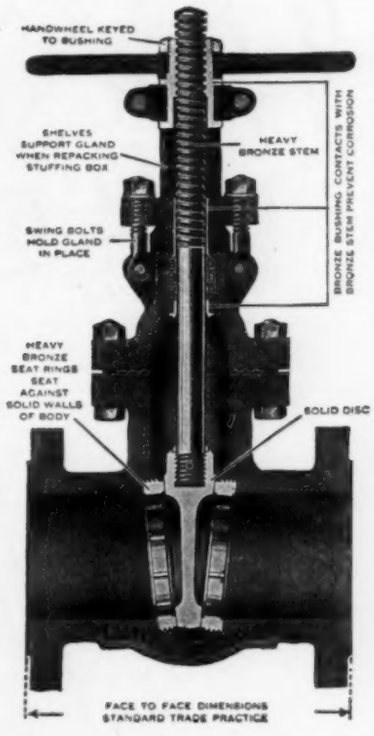
The long ribs in the body as well as the grooves in the disc are carefully machined and engage with a clearance so small and accurately gauged that pressure from either side cannot force disc against opposite seat. The disc rides straight and true to its seat without dragging on seat faces. This accurate method of guiding the disc prevents scoring or scratching of the seat faces and insures a tight valve. Chattering of the disc with its disastrous effects on the seat rings is eliminated, and the life of these vital parts of the valve is materially prolonged.

LUNKENHEIMER
IRON BODY BRONZE MOUNTED
GATE VALVES

embody many other distinctive features which stamp these designs as an outstanding development in gate valve construction.

The sectional view shows at a glance the numerous refinements, the simplicity of design, the rigid construction, and the careful attention to manufacturing details. These are factors which insure the highest degree of dependable service, with minimum maintenance expense.

Lunkenheimer Iron Body Bronze Mounted Gate Valves are made in two designs—Stationary Stem Inside Screw and Rising Stem Outside Screw and Yoke. Either design is procurable in the Standard Pattern, 125 lb. W.S.P.; Heavy, 175 lb. W.S.P.; Extra Heavy, 250 lb. W.S.P.


HANDWHEEL KEYED TO BUSHING
SHELVES SUPPORT GLAND WHEN REPACKING STUFFING BOX
HEAVY BRONZE STEM
BRONZE BUSHING CONTACTS WITH BRONZE STEM PREVENT CORROSION
SWING BOLTS HOLD GLAND IN PLACE
HEAVY BRONZE SEAT RINGS SEAT AGAINST SOLID WALLS OF BODY
SOLID DISC
FACE TO FACE DIMENSIONS STANDARD TRADE PRACTICE

Lunkenheimer Distributors, located in all oil producing centers, carry complete stocks and render prompt service. Call on them for your requirements.

AMERICA'S BEST LUNKENHEIMER "QUALITY" SINCE 1862

Complete information is contained in Gate Valve Book F.511, a copy of which will be sent upon request, without any obligation.
JUST FILL IN AND MAIL THE COUPON.

THE LUNKENHEIMER CO.
"QUALITY"
CINCINNATI, OHIO, U.S.A.
NEW YORK CHICAGO BOSTON PITTSBURGH
SAN FRANCISCO NEW ORLEANS
LONDON
EXPORT DEPT. 129-135 LAFAYETTE ST., NEW YORK

THE LUNKENHEIMER CO.
"QUALITY"
P. O. Box 876 Cincinnati, Ohio

Gentlemen—Send me without obligation, copy of Gate Valve Book No. 511. JK

Name_____
Firm_____
Position_____
Address_____

6-47-90

Now here will you find the ease of operation, durability and sturdiness of construction combined with a world wide distribution such as is found in the

BURNS TEMPER

ONLY BY USE OF GENUINE BURNS PARTS CAN YOU BE ASSURED OF CONTINUED LONG LIFE AND EASE OF OPERATION

TUBULAR SCREW

TEMPER BURNS SCREW

BURNS Tool Company

OKMULGEE - OKLAHOMA

Say you saw it in The OIL WEEKLY

The Oil Man's Choice

Darling Gate Valves have given faithful service in the oil fields for years—in production, main line and refinery service. Their long wearing qualities make them attractive, to the men who buy on the basis of ***cost per year*** instead of ***cost per valve.***

Men who use Darling Valves say that their efficiency reduces losses in production to a minimum. They seldom need replacement—they last for years. Back of this superior performance are the years of skillful engineering—of untiring experimenting—and of exacting workmanship with the best materials.

These well known Darling qualities stand out uniformly because Darling tests ***every*** valve at its rated test pressure and hold under this pressure until inspection is completed. Others are realizing a big saving by using the right kind of valve—you can do it, too.

Let us send you diagram showing details of construction. Sent upon request together with Catalogue.

DARLING VALVE & MANUFACTURING CO.
Williamsport, Pa.

New York Chicago Oklahoma City Houston

MID-CONTINENT DISTRIBUTORS:
Frick-Reid Supply Company
Atlas Supply Company
International Supply Company
Petroleum Supply Company

CALIFORNIA DISTRIBUTOR:
Petroleum Equipment Company, Los Angeles

DARLING GATE VALVES

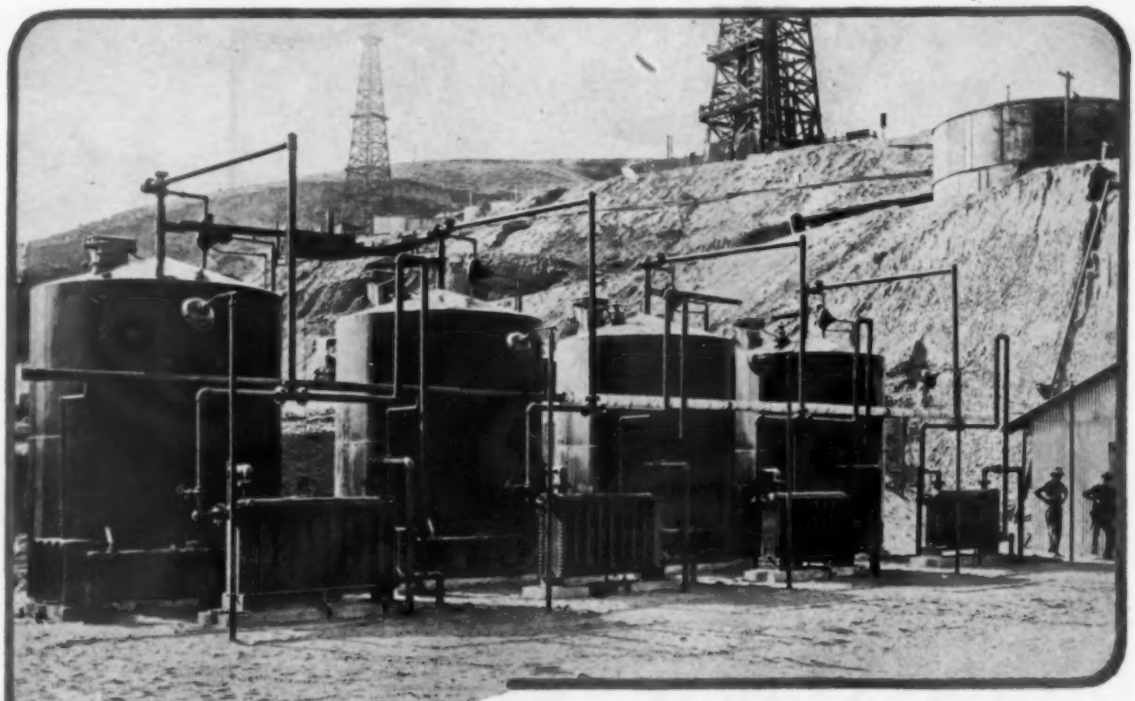
TRADE DARLING MARK

The old sword makers of Damascus indicated their pride of workmanship by the individual insignia of the blade maker. Stradivarius, Rembrandt — all the old masters of brush and craft registered an identification of their efforts.

So today does the Darling Valve & Manufacturing Company establish its identity, that those who would buy its products may be assured.

All Darling Valves bear the name Darling, the type of valve and rated pressure irremovably embossed upon the body of the valve. Be sure and look for the name before valves are installed as it is the easiest and surest means of identification.

By Invitation Member



The Only Mystery *about* "PETRECO"

THE only mystery about this "Petreco" Electric Dehydrating method of treating crude oil "emulsion" is the reason why any operator producing "cut oil" does not investigate and learn how many thousands of dollars he is passing up in additional profits every month. There's no mystery in the "Petreco" process; no mystery about results obtained; no mystery regarding the amount of oil saved, the higher price received for it, and the additional revenue earned. It's just a simple matter of asking your "Official Oil Doctors" to diagnose your individual case.

"Petreco" is at your service at any time to solve your cut oil problems. If you have such problems, call us. At any rate, get a copy of our booklet, "The Electrical Process for the Dehydration of Crude Oil Emulsions." It tells the complete story in detail.

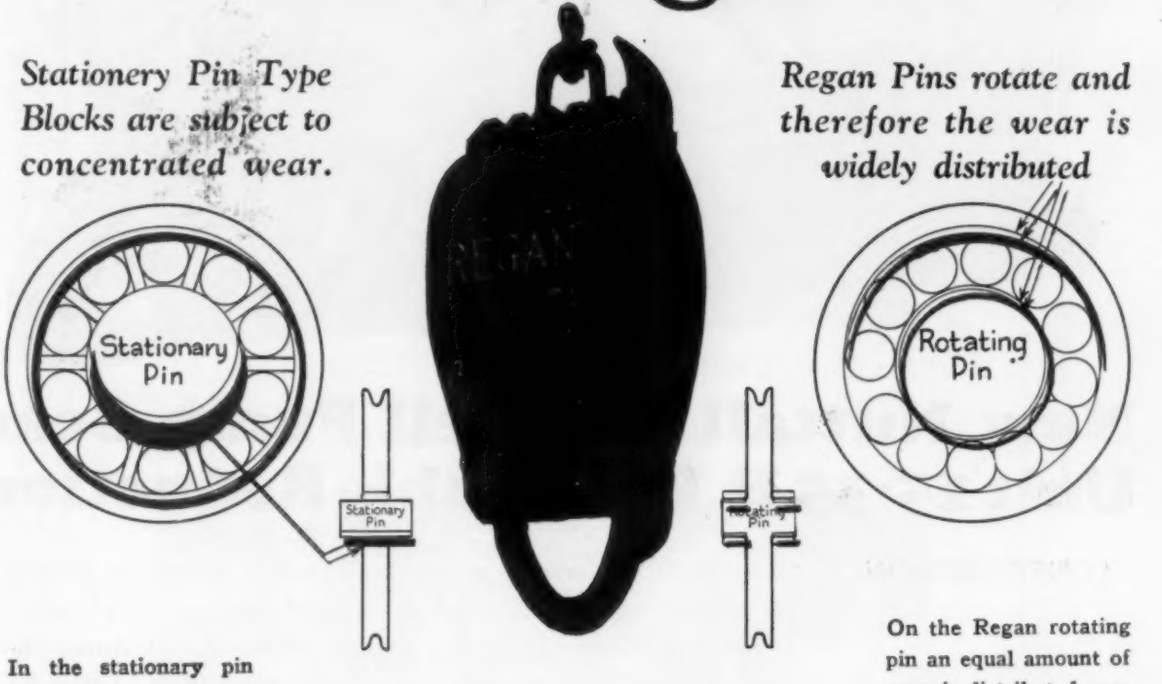
PETROLEUM RECTIFYING COMPANY OF CALIFORNIA

308 Union Oil Building, Los Angeles, California.
336 Humble Building, Houston, Texas

Study this *Engineering Principle* in Traveling Blocks

Stationery Pin Type Blocks are subject to concentrated wear.

Regan Pins rotate and therefore the wear is widely distributed



In the stationary pin type block the minimum wear is on the entire circumference of the bearing race. The maximum wear is concentrated on one-half of the circumference of the stationary pin. This brings about rapid destruction of the bearing.

Regan Traveling Block

On the Regan rotating pin an equal amount of wear is distributed over the entire circumference of the pin which makes it practically equal to one-half the large circumference of the race. This equalizes the wear on the pin and race, thus prolonging the life of the bearing.

Houston, Texas
1825 Post-Dispatch Bldg.

New York City,
75 West St.

Tulsa, Okla.
227 Mayo Bldg.

Regan

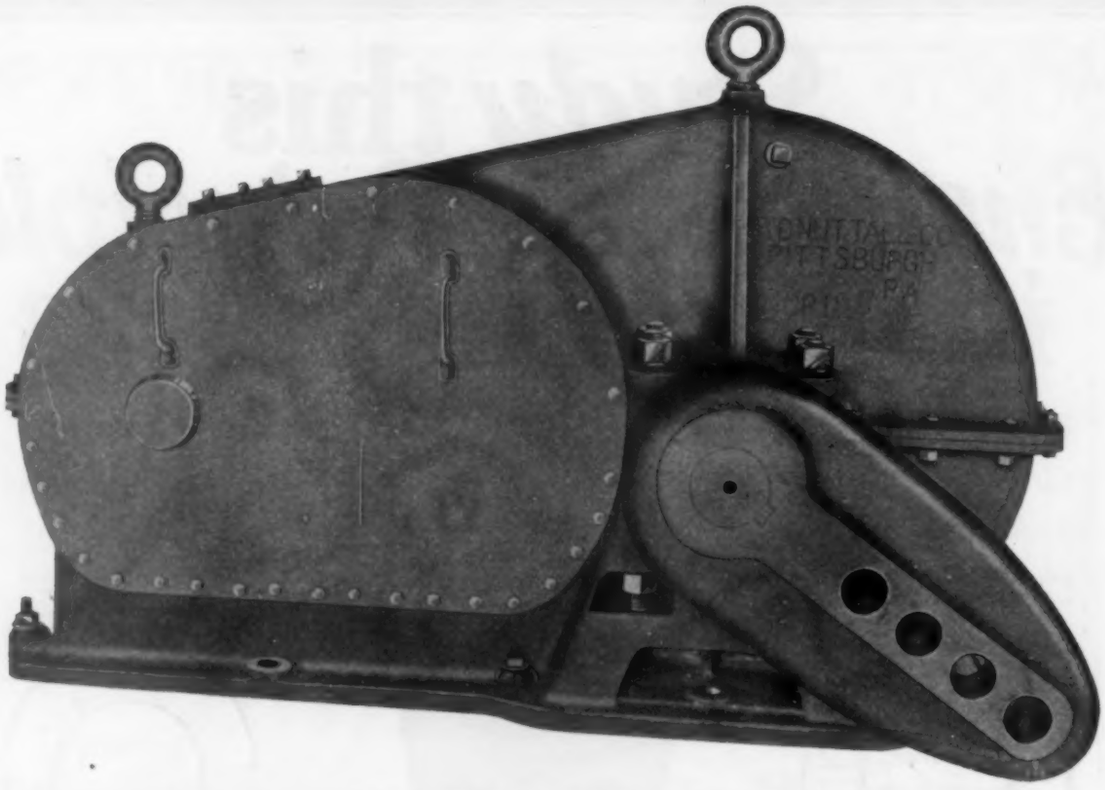
Forge & Engineering Co.

San Pedro California

Quality – Wrought on the Forge of Experience

Tampico, Mex.
J. W. Allen, Apdo. 1064

Maracaibo, Venezuela,
Wm. Adams, care American Consul



New Nuttall Oil Well Pump Gear Unit 15-35 H.P.—Double Reduction

CONSTRUCTION	The OP-11 is a strong, rugged unit built to stand the punishing service of the oil fields—it requires no attention beyond occasional lubrication. The gear case is of cast iron, dust and oil proof. The gears are of the spur type. Cut. BP "Tough-Hard" processed, and ground to true involute tooth form. Bearings are of the anti-friction roller type. Both gears and bearings are lubricated by a positive splash system.
POWER	15-35 Oil Well motor, 15-40 star delta, two torque motor or multi-cylinder gas or oil engine.
ELIMINATES THE BAND WHEEL	The crank attaches to the standard pitman eliminating the band wheel, belts, chains, belt houses, etc.
CHANGE GEARS	Gears can be readily changed in the field allowing pumping speeds to be varied.
WEIGHT	6,300 pounds.

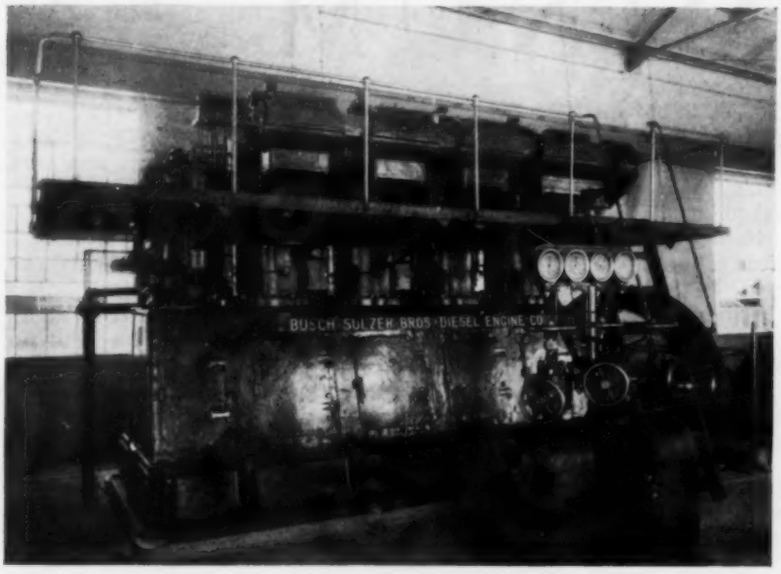
R. D. Nuttall Company, Pittsburgh, Penna.

Houston—Main St. and Congress Ave. Los Angeles—420 S. San Pedro St.

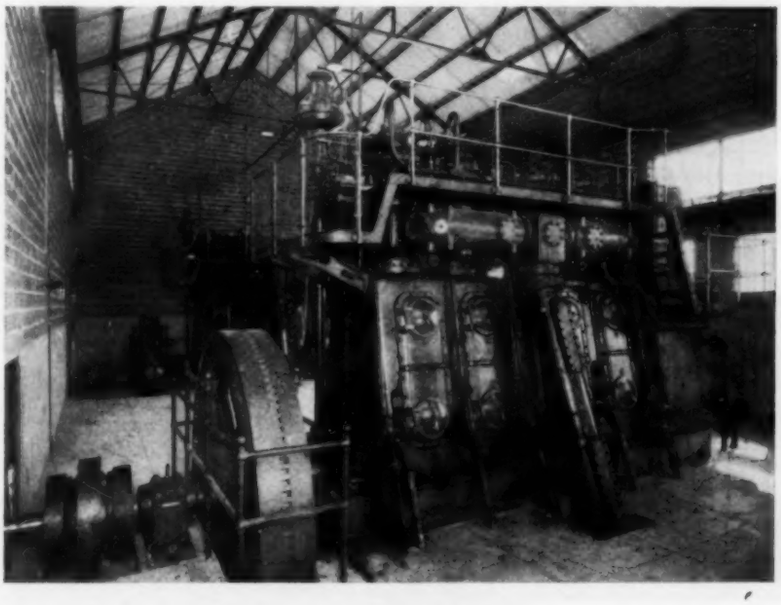
Oil Well Supply Co., Authorized Distributors.

Say you saw it in The OIL WEEKLY

Busch-Sulzer Diesel Engines



The Humble Pipe Line Co. operates 52 BUSCH-SULZER DIESEL ENGINES. They have recently placed order for 2 more 400 B. H. P. Engines like the one shown above.



Two of the 38 Busch-Sulzer Engines owned by the Sinclair Pipe Line Co.

Busch-Sulzer Bros.-Diesel Engine Co.

Two Rector St., New York. ST. LOUIS, MO. Rialto Bldg., San Francisco.

PARKERSBURG
Standardizes on
ALUMINUM PAINT

ALUMINUM PAINT is the latest development in the search for protective paints for industrial uses. The advantages of Aluminum Paint include better protection of metals against corrosion; and an ability to reflect heat rays, with reduced temperatures of the material painted.

Parkersburg Aluminum Paint has been developed and perfected after exhaustive research, study, and tests with other paints of this type.

Parkersburg Aluminum Paint is a *better oil field paint* — and gives *better protection to oil field equipment* than any other paint.

Parkersburg Aluminum Paint has exceptional qualities and abilities to reflect heat rays — with notable reductions in the temperatures of the equipment painted.

Protects Steel Surfaces

A film of metallic aluminum, "leafed" layer on layer (much like fish scales) protects the paint vehicle from exposure to the elements.

Only by extremely slow weathering away of the upper layers of aluminum is the paint vehicle exposed. In protecting the paint vehicle, the surface underneath the paint is likewise protected.

Reduces Evaporation Losses

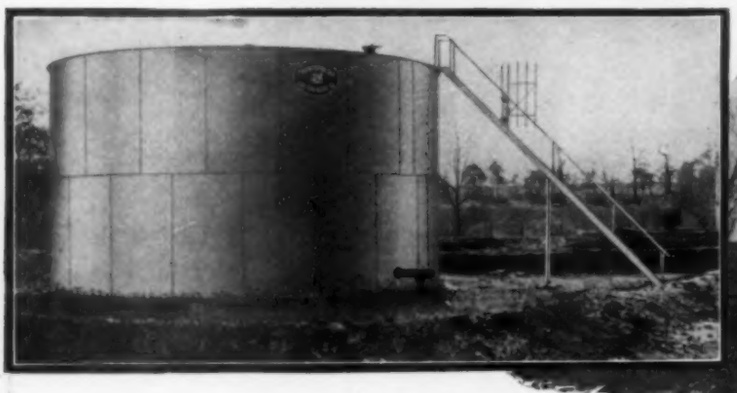
Aluminum is opaque — and has a high reflectivity for light. Because it *reflects* so much light — and *absorbs* so little — the temperature of the paint, and of the material underneath, remains substantially lower than would be the case with paints of less reflectivity.

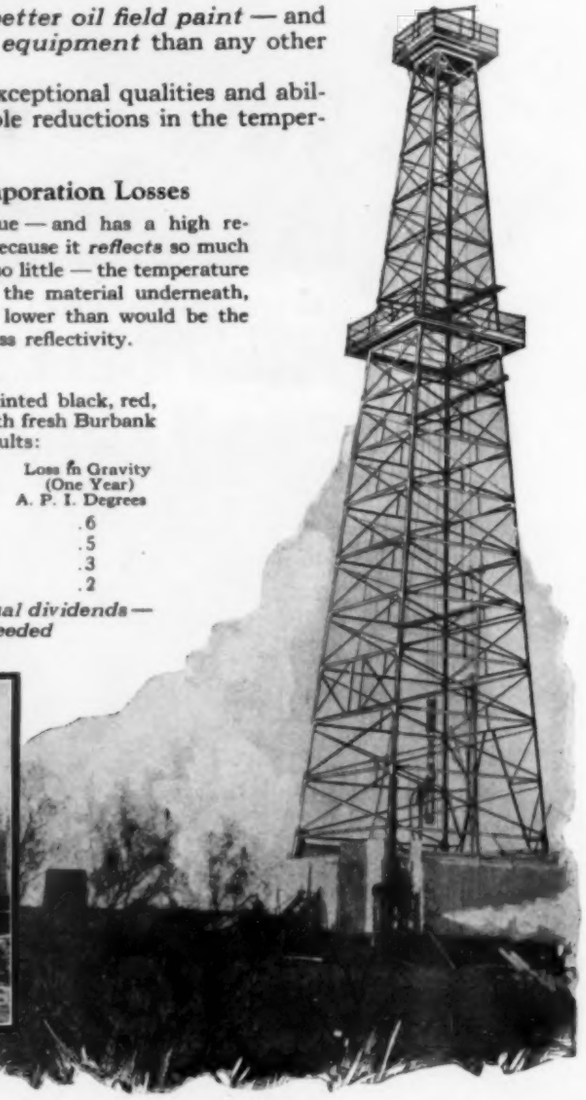
Results of Actual Tests

In a Bureau of Mines test, four 55,000-barrel tanks were painted black, red, gray and aluminum, respectively. Then the tanks were filled with fresh Burbank crude. Careful observations and records show the following results:

Color of Tank	Initial Contents Barrels	Evaporation Loss (One Year) Barrels	Evaporation Loss (One Year) Per Cent	Loss in Gravity (One Year) A. P. I. Degrees
Black	52,058	649	1.24	.6
Red	53,294	609	1.14	.5
Gray	53,192	547	.99	.3
Aluminum	53,418	447	.83	.2

The savings in oil indicated by this test pay increased annual dividends — more than enough to pay for repainting when needed





When you buy Parkersburg aluminum-painted Steel Tanks, Derricks and other Steel Equipment, you buy materials manufactured on a *quality* basis — and protected by the latest process developed through constant research for protective coatings.

The Parkersburg Rig & Reel Company

Main Office and Works at Parkersburg, W. Va.

Say you saw it in The OIL WEEKLY

WAR ON WASTE

The Volz Burner will give complete combustion on either high or low gas pressure—Burns either gas or oil or both at the same time—Also anything that will burn and run when hot.

Combination Burner

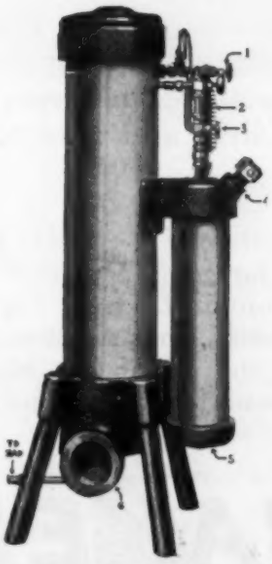
LEVER HORIZONTAL - WHEN OPERATING
LEVER VERTICAL DOWN - TO BLOW OUT

Volz Self-Cleaning Steam Trap is fitted with valve and seat which do not require regrinding—All interior working parts made of non-corrosive Bronze or Brass—All Volz traps have greater capacity than others of equivalent sizes.

Boiler Feed Water Regulator

The Voltz Automatic Lubricator and Steam Separator is a real necessity wherever steam is used for power.—It is easy to lubricate dry steam but impossible to lubricate water—The Volz Lubricator and Separator eliminates water-slam, water knocks, and that awful groaning in your engines and pumps when water washes out your lubricating oil—***They have proven satisfactory on a steam line more than a mile long.***

Increase the life of your equipment by installing the Volz Automatic Lubricator and Steam Separator.



Automatic Lubricator and Steam Separator

The Volz No. 2 Boiler Feed Water Control is simple to install. It holds high and low water level to less than ½-inch. It holds variation in steam pressure to less than 5 pounds.

Competent engineers and official boiler inspectors marvel at its simplicity and reliability and recommend it.

Write for descriptive folder

Volz Engineering Equipment Co.

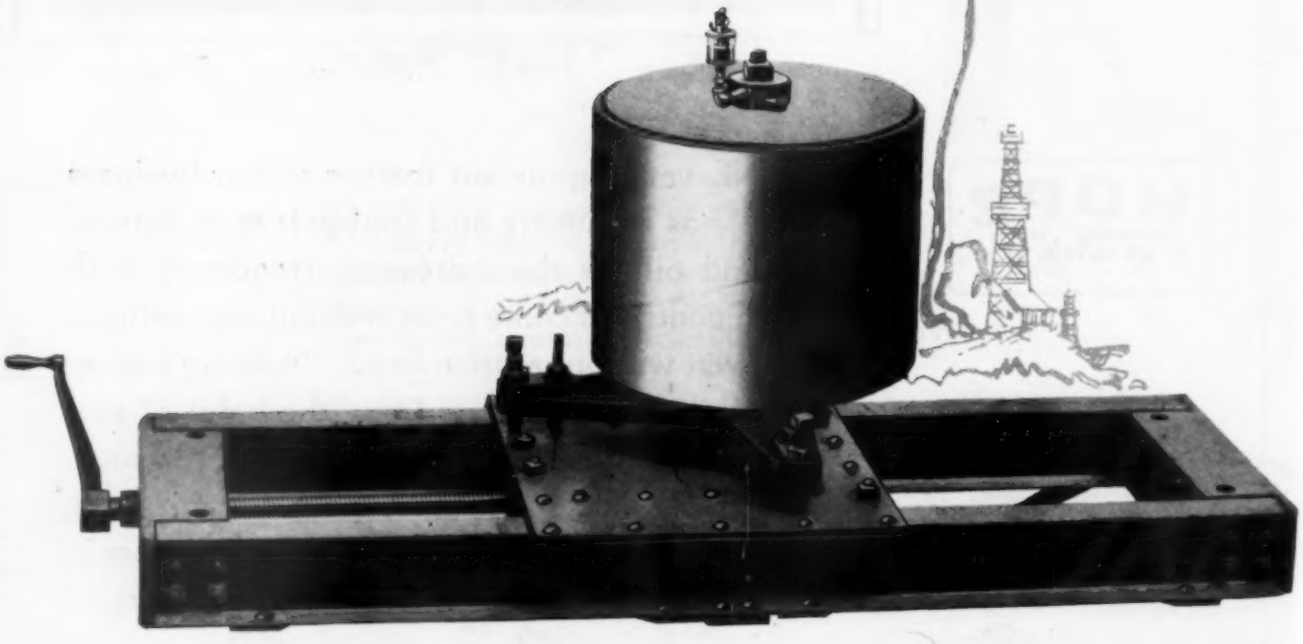
S. O. HALE, Agent—2719 Houston, Ave.
Houston, Texas

Bovaird Supply Co.
Tulsa, Seminole, Sapulpa, Okla., and Borger, Texas.

Wilson Supply Co.
12 5th St., Houston, Texas.
Beaumont, Texas.
Hull, Texas.

T. T. Word Supply Stores
Leona & Carr Sts., Houston, Tex.
Shreveport, La.
Lake Charles, La.

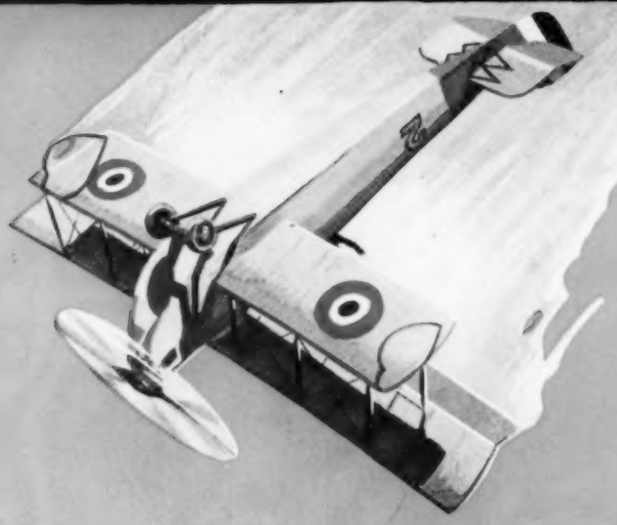
NATIONAL BELT TIGHTENER "Type C"



THE NATIONAL SUPPLY COMPANIES

Say you saw it in The OIL WEEKLY

There Is Nothing Spectacular About Pipe Performance



YOU can't stand by and watch one pipe out-perform another. If you could a lot more thought would be given to your selection.

But if pipe performance is lacking in incident, pipe *failure* is very likely to be spectacular—and *sure* to be costly!

Good pipe doesn't go about its business with any sort of show. Its main purpose in life is to last—and keep on lasting. And that's just what it does.

Reading Genuine Wrought Iron Pipe out-performs its steel competitors two to three times over. It resists corrosion and vibration to the limit. And that's why the wise operator looks for the name "Reading" on line pipe, casing or tubing.

READING IRON COMPANY
READING, PA.
World's Largest Manufacturers of Genuine Wrought Iron Pipe

You Get What You Pay For in Tubing

Why pay for a pipe's inability to resist crystallization and corrosion? Why pay for unsound welds, time-consuming cutting and threading difficulties—wasted effort, time and money? Don't be fooled by an alluring price. Make it a point to look for "Reading" on the next tubing you order.

EST. READING 1848

READING PIPE
GENUINE WROUGHT IRON

There is No Magic or Mystery About Pipe Life

Casing That Costs a Trifle More to Buy

—and can be run again and again in one well after another. That's "Reading"! The casing that *serves best* and *saves most* for careful operators everywhere. One man removed Reading Genuine Wrought Iron Casing from wells drilled nineteen years before and found it in a perfect state of preservation. And his experience is not unusual.

FOR pipe life is a matter of chemistry and metallurgy. Pipe with the "stuff" to resist corrosion and vibration, does so. Pipe that lacks these inherent qualities just can't "stand the gaff."

Wrought Iron contains a natural element of slag which is impervious to rust. This slag is intermixed with the purified iron in such a way that it forms millions of barriers which rust must go *around* instead of *through*, as it does in steel.

And the tough, fibrous structure of Wrought Iron withstands vibration indefinitely without crystallizing—a big advantage when you remember that crystallization is the cause of many pipe failures.

There's no magic about "Reading's" unusually long life. But put it to work in wells and you *will* find that "Reading" works "magic" with your production costs.

READIN

GENUINE W

And Pipe Buying Should Never Be A Gamble

YET pipe of unknown life is always a gamble—a gamble many take because of the *seemingly low* first cost.

Pipe that cannot successfully resist corrosion and vibration over long periods of time cannot ever be classed as a paying investment.

The wise operator takes precautions instead of chances. He knows that all element of chance comes out when Reading Genuine Wrought Iron Pipe goes in. For Reading Genuine Wrought Iron Pipe has proven time and time again its ability to outlast steel two to three times over.

Trusting to "luck" is a poor policy where line pipe, casing or tubing are concerned. Trusting to "Reading" means lower production costs, uninterrupted service, new freedom from delays, costly replacements and repairs.

Bury It and Forget It!

The cost of laying a long-distance pipe line is tremendous. Where then, is the economy in putting down any pipe other than that which gives longest service and least trouble? Reading Genuine Wrought Iron Pipe lasts *two to three times longer!*

NG PIPE

ROUGHT IRON

But the Calendar Will Show You How Much Pipe Costs

COST per year is far cheaper than cost per length—and your calendar will prove it.

Opinions may differ when pipe is *bought*,—but not when pipe is *used*. For time invariably tells the story—a story of low production costs, and long, unfailing service; or a story of short life, frequent production snarls, lost time and money thrown away.

The construction of Reading Genuine Wrought Iron Pipe, with its siliceous slag content, guards against the destructive forces of corrosion and vibration. Its clean, sharp threads give a perfect seal after repeated making up and breaking out.

Reading Pipe was "perfected" in 1848. It is still made in the same painstaking, thorough manner as it was in 1848. Specify "Reading"—the pipe that endures. The calendar will back your judgment.

READING IRON COMPANY
READING, PA.
World's Largest Manufacturers of Genuine Wrought Iron Pipe
OIL WELL SUPPLY COMPANY, *Distributors*
Inquire at any of their 100 branches

Old Timers in the Oil Fields

know what to expect of Reading Genuine Wrought Iron Pipe. For "Reading" has grown up with the industry and has given a good account of itself for the last 30 years. No tie-ups, no losses, when your Tubing, Casing and Line Pipe are marked "Reading." That's why Reading Pipe has the respect of old-established operators from Pennsylvania to the Pacific.

READING PIPE
GENUINE WROUGHT IRON

Be Careful In The Selection Of Lubricants For Your Motorized Equipment

Passenger cars and trucks of different makes vary considerably in type and design.

Be sure that you understand: (1). The type of lubricating system used, which determines the method of feeding the oil. (2). The type of cooling system used, this factor having more or less effect on the operating temperatures of various parts of the motor.

The proper lubrication of motor equipment means not only the lubrication of the engine cylinders — but the complete lubrication of all of the moving parts of the motor. Much harm can result from the use of too heavy an oil in a pressure system not designed to handle it—also where the "splash" system is used, the oil must not only flow easily, but must atomize readily so as to reach certain bearings which can be lubricated only by a fine mist. Your passenger cars and your trucks are designed to give you many years of service—if they are properly lubricated.

HUMBLE OIL & REFINING CO.
HUMBLE OILS
HOUSTON, TEXAS

Reg. U. S. Pat. Off.

There is a Humble Oil which is specially prepared to meet every bearing need in your plant, your trucks, or in your automobile.

Humble Motor Oils are the result of years of experience in lubricating internal combustion engines. The recommendations of Humble engineers are an added factor of safety. Whether you operate one passenger car and truck, or a whole fleet of motorized equipment, it will pay you to learn more about Humble Oils.

Humble Oil & Refining Co.

Producers ~ Pipe Lines ~ Refiners ~ Marketers

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Producer *Refiner* *Jobber* *Distributer*

High Grade Petroleum Products

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Magnolene
REG. U.S. PAT. OFFICE

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DEPENDABLE LUBRICANT

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Inquiries Respectfully Solicited

The Safest and Most Satisfactory Drilling Jars Made!

Spang Weldless Drilling Jars have exceptional wearing qualities. Every oil field operator and every driller who has used Spang Jars—will verify this statement.

Spang Weldless Jars are made to meet the most severe service—they're manufactured from a single piece of tough alloy steel, a construction that absolutely eliminates the welds which constantly encourage failures and fractures.

Once you have tried the Spang Weldless Jar—you will use no other.

SPANG AND COMPANY

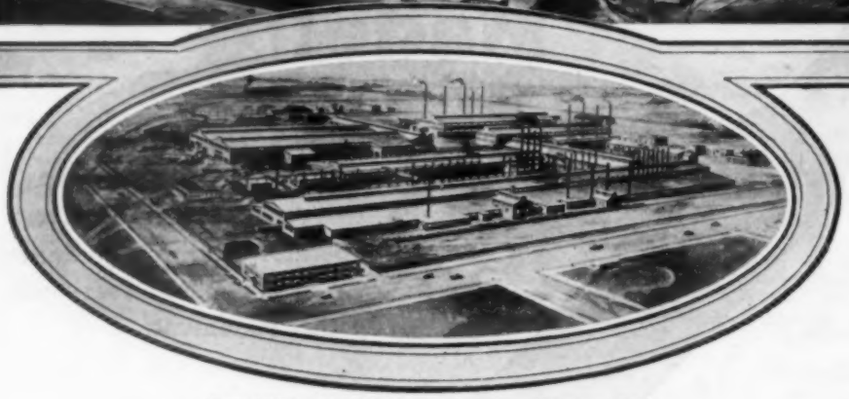
Butler **Penna.**

Sold By Your Supply Company

Spang Thread Protector

Protect your tool joints with Spang Thread Protectors. Like all Spang products they guarantee absolute satisfaction and long, durable wear.

Over 300 Supply Stores carry complete stocks of Spang Weldless Drilling Jars



Main Plant of United Division, Canton, Ohio

South Plant of United Division, Canton, Ohio

Now Two Sources of Supply

Agathon Alloy Steels

In Daily Production

Nickel, Chrome-Nickel
UMA, Molybdenum
Chrome-Molybdenum
Nickel-Molybdenum
Vanadium, Chrome-Vanadium, Chromium, etc.
Deliveries in Blooms, Billets, Slabs, Hot Rolled, Heat Treated, and Cold Drawn Bars.

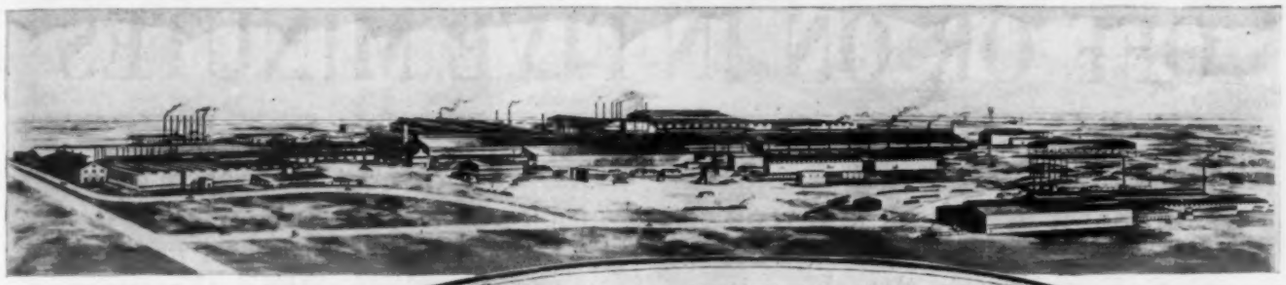
THE CENTRAL ALLOY STEEL CORPORATION combines two distinct and completely self-contained steel plants with facilities so complete as to constitute virtually two sources of supply.

No other organization is so thoroughly equipped with metallurgical ability for scientific research and for the actual supervision of high quality production.

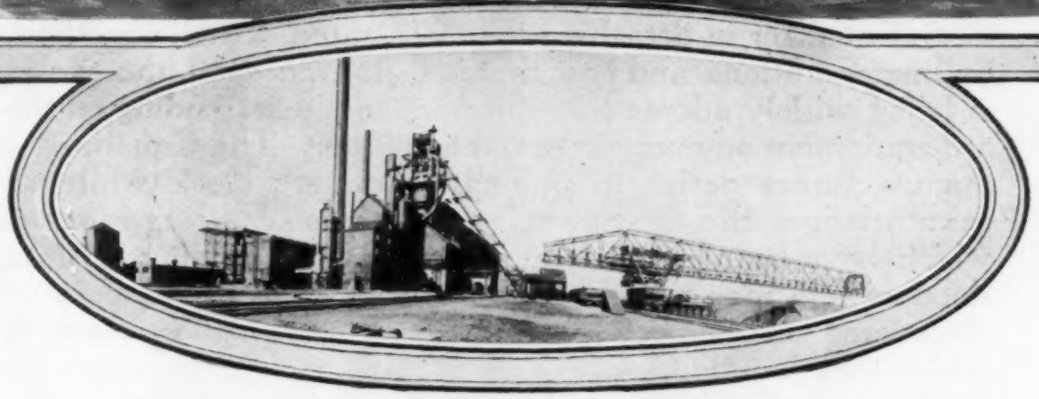
The Central Division, at Massillon, Ohio, has a blast furnace of 800 tons daily capacity, which will be served by a 49-oven by-product coke plant. Melting and rolling capacity for a yearly production of 400,000 tons of alloy steel blooms, billets, bars, etc., 100,000 tons of hot-rolled strip for automobile frames, brake drums and all heavy stampings, and 70,000 tons of special finish sheets, make this one of the most important units in the special steel industry.

ACATHON STEELS

AGATHON



Main Plant of Central Division, Massillon, Ohio



Blast Furnace, Central Division, Massillon, Ohio

from Ore to Finished Steel

The United Division, at Canton, Ohio, has a blast furnace of 650 tons daily capacity served by a 47-oven by-product coke plant. The capacity for alloy, carbon and special steel blooms, billets, bars, etc., is 520,000 tons per year. Electric furnace equipment provides 50,000 tons of electric steels annually, while the capacity in both common and special finish sheets, black, galvanized, terne-coated, etc., is 280,000 tons per year.

The combined facilities of this great organization make possible to a greater degree than ever before a highly efficient and well-rounded service to the user of alloy steels and sheets.

Other Agathon Products

High Finish Sheets
Blue Annealed Sheets
Black Sheets
Galvanized Sheets
Terne-coated Sheets
Hot Rolled Strips
Toncan Metal
Enduro Stainless

Central Alloy Steel Corporation, Massillon, Ohio

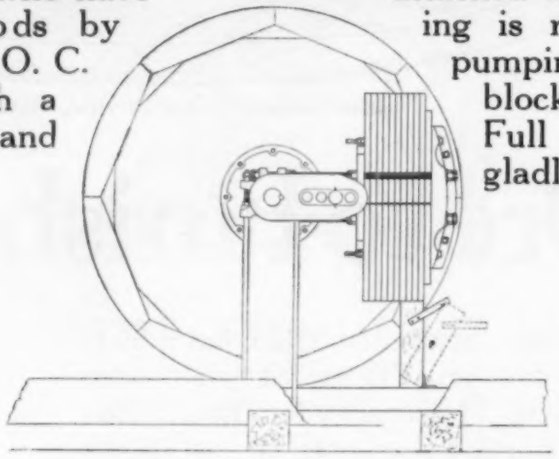
CLEVELAND DETROIT CHICAGO NEW YORK
SYRACUSE PHILADELPHIA LOS ANGELES TULSA

ALLOY STEEL

OFF OR ON IN FIVE MINUTES

Recognizing an existing impression that it is difficult and requires considerable time to handle the O. C. S. Equalizer in detaching it for pulling operations, and now that it is being widely adopted as standard equipment on many leases, the manufacturers desire to publicly acknowledge the suggestions which have been offered by production field men who have discovered methods by which they handle O. C. S. Equalizers with a minimum of effort and time.

One of the most satisfactory and quickest devices is a wood (6″x 6″) hook-off block used as illustrated. By this method, the operator does all the work, in a few minutes **standing on the belt-house floor.** The Equalizer weights rest on the block while the two rim bolts are being removed, and during the pulling operation and are attached again when pumping is resumed. When pumping the hook-off block is out of the way. Full details will be gladly sent on request.



The O. C. S. Equalizer is easily and quickly detached from the bandwheel rim for pulling operations and as easily and quickly attached when ready to pump again.

The manufacturer also announces that the O. C. S. Equalizer is the original bandwheel counterbalance, and that it is fully covered by patents granted and pending. No other manufacturer is licensed to make the O. C. S. Equalizer or any other centrifugal counterbalancing device for pumping wells under these patents.

Manufactured By

In the Mid-Continent: All Supply Stores Everywhere

THE OIL COUNTRY SPECIALTIES MFG. CO.

In California: Hillman-Cooney, Inc. Los Angeles

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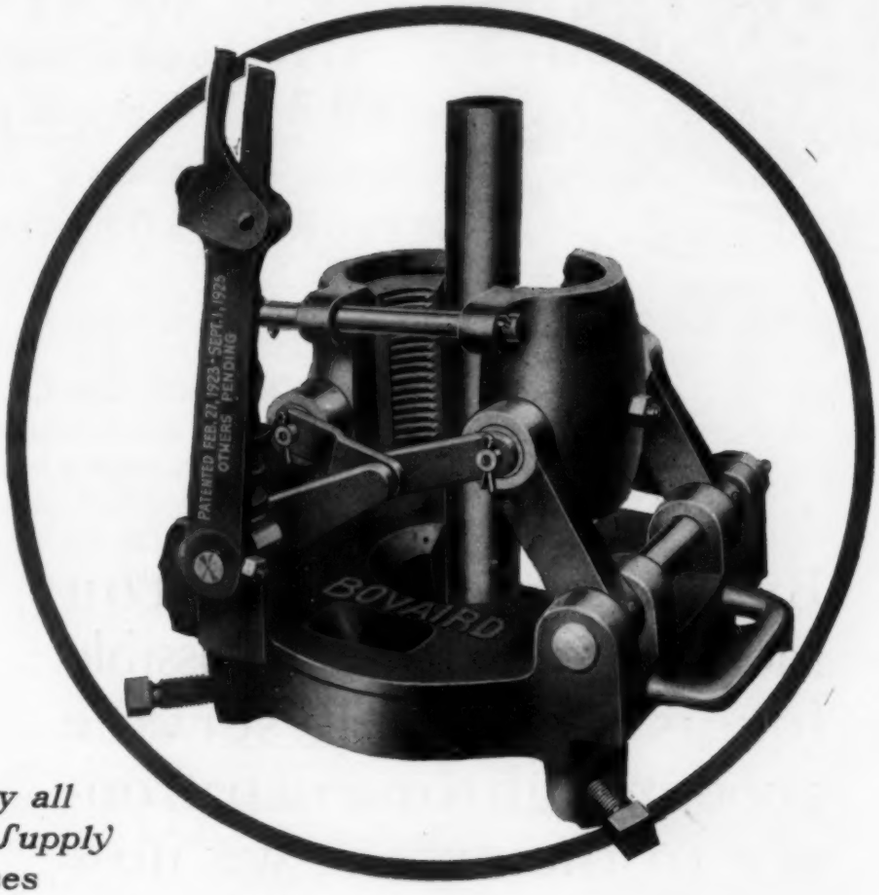
BOVAIRD *Grip* TUBING SPIDER



Sold by all Leading Supply Houses

Mid-Continent Representatives:

"HAZARD" WIRE LINES
"LEIDECKER" SPIRAL TOOLS
"VOLZ" EQUIPMENT

THE BOVAIRD SUPPLY COMPANY

904 MID CONT. BLDG. TULSA, OKLAHOMA

BOVAIRD

Say you saw it in The OIL WEEKLY

By using the Halliburton method you make it possible for us to provide service good enough to merit patronage to the extent we now enjoy it.

Erle P. Halliburton

HALLIBURTON OIL WELL CEMENTING CO.

Duncan, Oklahoma

You can absolutely make sure of EVERY cement job with this Lorraine Built Barrel

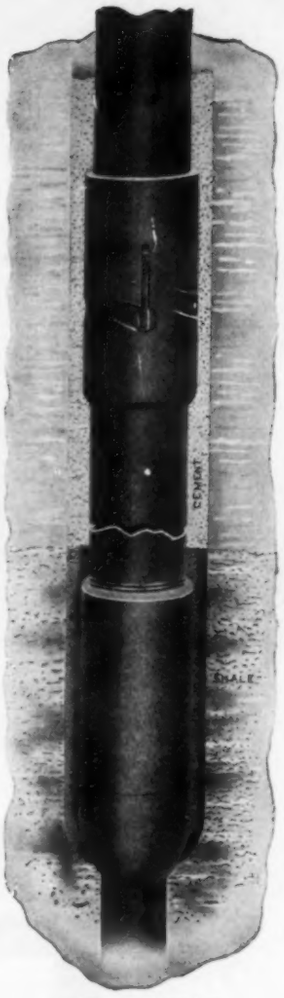
Makesure CEMENT BARREL

Lorraine Built

THE Crowell "Makesure" Barrel is so constructed that the cement is forced up around the casing without danger of it backing up inside. It centers faultlessly with equal spacing all around, giving perfect protection at all points around the pipe. Uninterrupted circulation is assured.

The Lorraine "Makesure" Cement Barrel is rapid in operation, economical in maintenance and dependable under all circumstances. It takes the guess work out of cementing a well because its action is automatic and safeguards unexpected emergencies.

A complete water shut-off is guaranteed when the Crowell "Makesure" Cement Barrel is used. Have us send you further particulars.



Patents Pending

THE LORRAINE CORP.

[P. O. BOX 901-R.R.3] MANUFACTURERS AND DISTRIBUTORS [Phone Compton Main 116-R]

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523 So. Washington St., Box 1796
El Dorado, Arkansas

Export Distributors
Buck & Stoddard
25 Broadway,
New York City

Tulsa

Welcome!

We, with all other Tulsans, are complimented by the selection of our city for the Convention of The American Petroleum Institute.

We extend a hearty welcome and invite a visit to our bank.

Start Your Account Here

FIRST NATIONAL BANK OF TULSA

"Tulsa's Oldest Bank"

Say you saw it in The OIL WEEKLY

THE "AMERICAN" MADE

IS ALWAYS THE BEST

WE FURNISH THEM FOR THE UNITED STATES AND FOREIGN COUNTRIES

No Order Too Large or Too Small

AMERICAN MANUFACTURING COMPANY OF TEXAS

WEATHERFORD, TEXAS

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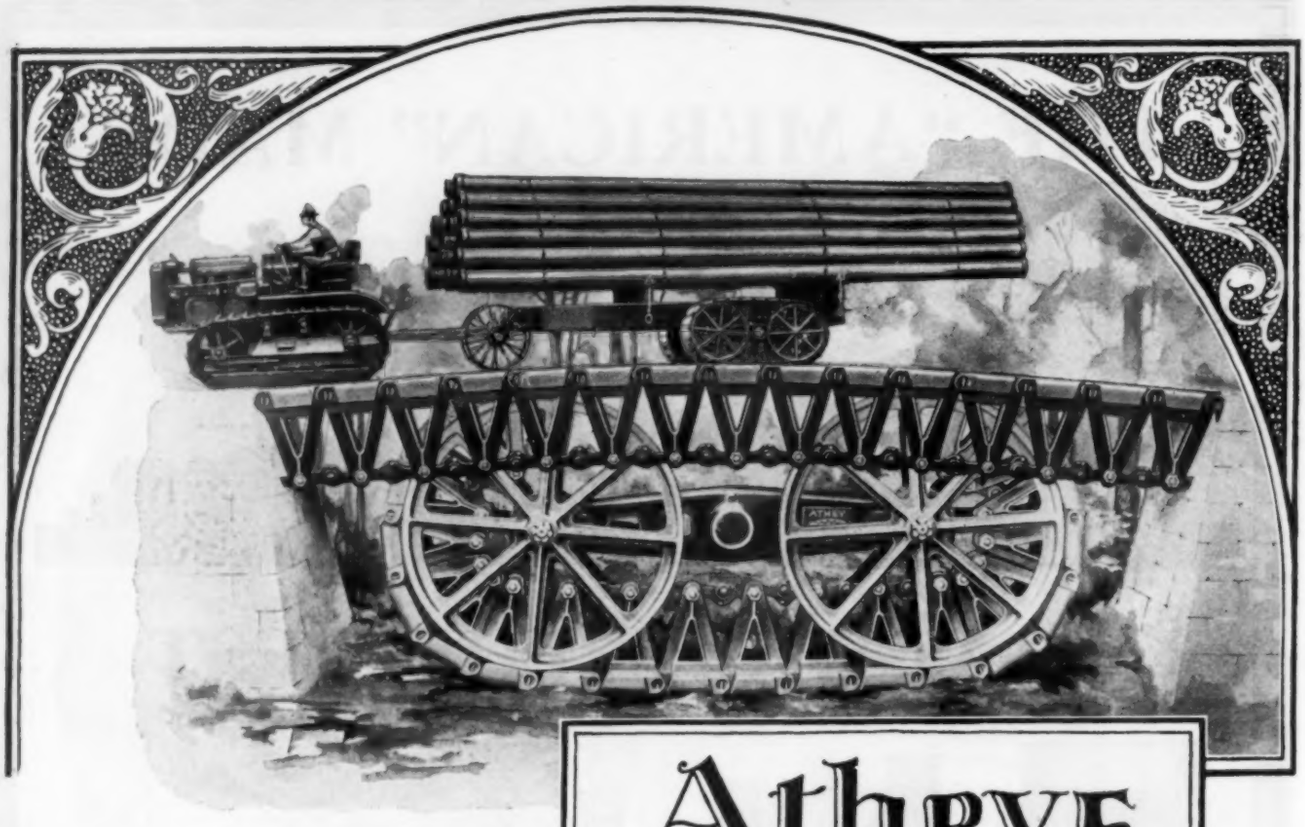


Atheys
Bridge the Soft Spots

The Athey Truss Wheel is a track-laying wheel of special construction, ideally adapted as a load-carrying wheel for transporting heavy loads over ground that is SOFT, sandy, or deeply covered with rotten vegetation.

Nine square feet of ground contact provided by a pair of wide, rigid steel tracks, support capacity loads wherever animals or tractors can work. Atheys carry the load OVER the mud—not through it.

Athey Truss Wheels make their own roads by compressing the soil into a firm roadway instead of cutting big ruts and deepening mud holes. THEY BRIDGE THE SOFT SPOTS.

With Athey Truss Wheel Wagons you can haul maximum 10-ton loads under all operating conditions, operate with 30% to 50% less tractive power, reduce tractor operating maintenance costs, eliminate operating delays, increase number of working days and carry capacity loads where other equipment can not work.

Athey Wagons pay substantial dividends. Let us tell you more about them.

ATHEY TRUSS WHEEL COMPANY

130 No. Wells Street, Chicago, U. S. A.
Cable Address: "Trusswheel, Chicago"

The Baldwin Locomotive Works, Foreign Representatives, Philadelphia, Pa.

ATHEY TRUSS WHEEL WAGON

IT BRIDGES THE SOFT SPOTS

lighter weight greater strength longer life

When every minute counts . . . when breakdowns mean the loss of valuable time . . . then is when you think of a medium which will give greater strength and longer life to your equipment.

Successful operators have learned of the economy of Electric steel . . . its great strength . . . longer life and lower cost.

As a result Electric steel is steadily growing in favor in the Oil Industry. Today hundreds of pieces of equipment, formerly cast in iron or malleable, are giving longer life, greater freedom from shut-down delays and a greater economy in operating costs.

The success of Electric steel in the industry . . . the increasing popularity of this product . . . is responsible for the steady growth of this great plant, located in the heart of the Oil Country.

Our engineering department will gladly work with you to help solve your metallurgical problems . . . to redesign your equipment, or parts of it, for production in Electric steel.

This engineering service is being used constantly by those familiar with it. You, too, might find, through our co-operation, a way to greater economy and efficiency in your manufacturing problems, by giving us an opportunity to work with you.

INDUSTRY

ELECTRIC STEEL

Oil Country Equipment

A few of the many items now generally purchased from us:
Crank Shafts, Gears
Wedges
Bailer Bottoms and Darts
Drive Clamps
Tool Wrenches
Casing and tubing elevator parts
Trip Spear parts
Latch jacks.

OKLAHOMA STEEL CASTING CO.

TULSA, OKLA.

Say you saw it in The OIL WEEKLY

MASTERPIECES OF FORGING CHRISTMAS TREES THAT DO NOT REQUIRE NIPPLES

(Patent Pending)

FORGED from one solid piece of 45-point carbon steel, "Gulfco" Christmas Trees are threaded with male threads and eliminate four chances of "leakage."

—They are tested high enough to stand any pressure that the control valves can stand, and are tougher than pipe itself—a notable contrast to the old-style "cast" christmas tree cross.

—They are so compact that it is not necessary to "crib up" derricks to set them below the floor; saving hours of valuable time on the derrick floor.

"Completely Ready to Use the Minute They Arrive"

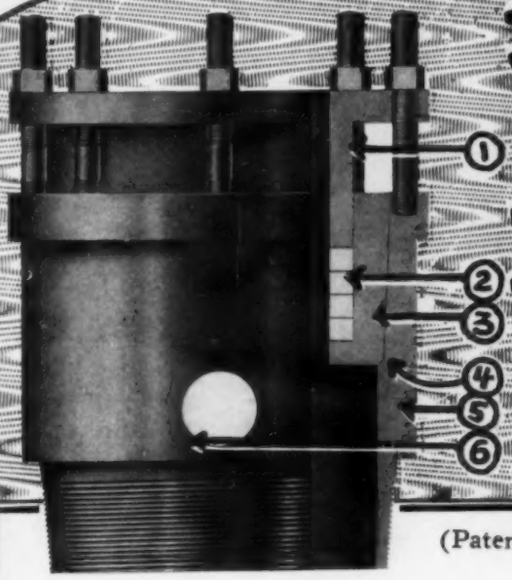
GULF COAST MACHINE & SUPPLY CO.

HOUSTON, TEXAS
316 West Bldg.

BEAUMONT, TEXAS
305 Orange St.

ULF Co
RODUC

These 6 features mean 6 times better



(Patent Pending)

1. Renewable Forged Gland.
2. Large Packing Space, with uniform size Packing.
3. Renewable Inner Ring.
4. Ground Joint Seat between Ring and Body.
5. Solid Forged Body of High Carbon Steel.
6. Any size and number of Gas Outlets desired.

THIS IMPROVED BRADENHEAD is forged from high carbon steel. It has three times the packing space of the ordinary Casing Head, is tested at 3000 pounds hydraulic pressure and will control the heaviest "gasser." —By replacing the split gland and inner ring, one size Bradenhead may be used to pack off several sizes of casing. Due to the ground joint beveled seat between the inner ring and body, uniform size packing can be used in all size heads. This eliminates the necessity of stocking several sizes of packing.

Gulfco Products" Sell on their "Performance"

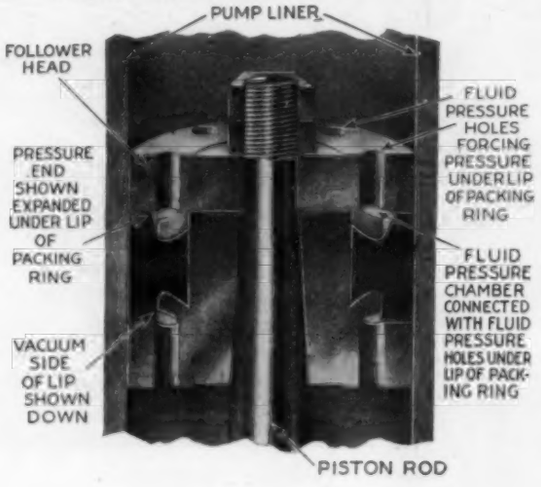
GULF COAST MACHINE & SUPPLY CO.
HOUSTON, TEXAS — 316 West Bldg.
BEAUMONT, TEXAS — 305 Orange St.

GULF CO PRODUCTS

Say you saw it in The OIL WEEKLY

Why Lose Valuable Time Repacking Pumps?

THE KIBELE PATENTED PRESSURE SELF EXPANDING FRICTIONLESS AND NON-SLIPAGE PISTON


PUMP LINER
FOLLOWER HEAD
FLUID PRESSURE HOLES FORCING PRESSURE UNDER LIP OF PACKING RING
PRESSURE END SHOWN EXPANDED UNDER LIP OF PACKING RING
FLUID PRESSURE CHAMBER CONNECTED WITH FLUID PRESSURE HOLES UNDER LIP OF PACKING RING
VACUUM SIDE OF LIP SHOWN DOWN
PISTON ROD

The performance of the KIBELE PATENTED PRESSURE PISTON in hundreds of pumps under severest operating conditions has demonstrated that it will outwear any other piston many times over.

The packing sleeve expands to whatever shape the liner may be —(barrel shape, out-of-round, taper)—and packs the full length of the stroke of the pump without slippage or bypass.

Saves the liner

No special piston rods required

No changes on pump

Made to fit any make or size pump

Sold by Supply Companies

Mission Sales Company

Houston, U. S. A.

INDEX TO ADVERTISERS

A

Abercrombie Co., J. S. 290
Acme Fishing Tool Company ..... *
Aetna Ball Bearing Mfg. Co. ..... *
Ajax Iron Works .....Insert
Alamo Iron Works 331
Albany Hotel 344
Alco Oil Tool Co. 6
Aluminum Company of America ..... *
Amarillo Abstract Company 348
Amarillo Hotels 340
Amerada Pet. Corp. 20
American Cable Co. ..... *
American Mfg. Co. of Texas 45
American Roller Bearing Co. 19
American Telephone & Telegraph Co. ..... *
American Well Works 339
Anderson-Prichard Oil Corp. 345
Andrews Steel Company 279
Askania Werke, A. G. 312
Athey Truss Wheel Company 46
Atmore Co., Robert. N. ..... *
Axelson Machine Co. .....New Equipment 99

B

B. & A. Specialty Co.....New Equipment 71
Baash-Ross Tool Company 334
Baird Supply Company ..... *
Baird Tool Works 346
Baker Casing Shoe Company..... 32
Baldwin Chain & Mfg. Co. 17
Baltimore Hotel 340
Barnickel, Wm. S., Company 22
Barnsdall Refineries, Inc. 337
Beaumont Iron Works .....Insert
Becker Specialty Company New Equipment 63
Bessemer Gas Engine Company 10
Bovaird Supply Co. 41
Braden Steel & Winch Co. .....New Equipment 118-119
Bradford Motor Works 353
Bridgeport Machine Co. .New Equipment 72-73
Buckeye Traction Ditcher Company 339
Busch-Sulzer Bros.—Diesel Engine Co. ... 29
Burns Tool Company 24
Burt Corporation .....New Equipment 68-69
Butler Manufacturing Co. ..New Equipment 80
Byron Jackson Pump Mfg. Co., Inc. ..... *

C

Cameron Iron Works 287
Central Alloy Steel Corp. 38-39
Central Tube Company 338
Chicago Pneumatic Tool Co. 263
Clark Bros. Company..New Equipment 106-107
Clark Machine Co. 318
Columbian Steel Tank Co...New Equipment 39
Columbus Sucker Rod Company, The .... *
Continental Motors Corp. ..... *
Continental Natl. Bank of Fort Worth....334
Continental Supply Company 307
Crago Gear and Machine Works ..... *
Cyclone Fence Co. ..... *

D

D. & B. Pump & Supply Company ..... *
Darby Petroleum Corp. 331
Darling Valve Manufacturing Company.... 25
De La Vergne Machine Company 338
Donovan Boiler Works, Inc. ..... New Equipment 98
Dunn Manufacturing Co. 14

E

Eagle Picher Lead Company..... *
Easte n Texas Electric Company.....327
Eastern Torpedo of Ohio Company.....330
Eclipse Paint & Mfg. Company 341
Elliott Core Drilling Company 343
Empire Companies .....New Equipment 109
Emsco Derrick & Equipment Company ... 18
Erickson Pattern Works 340
Exchange Natl. Bank of Tulsa .....New Equipment 55

F

Federal Supply Company New Equipment 60-61
Fetty Co., C. C. .....New Equipment 17
Fire Proof Tank Cover and Condenser Co. *
First Natl. Bank of Fort Worth .....New Equipment 89
First Natl. Bank of Tulsa 44
Fort Worth Laboratories 348
Franklin Valveless Engine Company 277
Frick-Reid Supply Co. ..New Equipment 91-102

G

Gallup Map & Supply Co. 340
Gardner Governor Company ..... *
Gardner Petroleum Company 336
Garland & Co., R. F. 16
Garlock Packing Co. .....New Equipment 25
Gaso Pump & Burner Mfg. Company..... .....3. New Equipment 22-23
General American Tank Car Corp. ..... *
General Electric Company ..... *
Gott, H. P., Manufacturing Company .....New Equipment 89
Goulds Pumps, Inc. ...New Equipment 122-123
Graham Brothers ..... *
Great Northern Hotel 344
Greenspon's Jos. Sons and Steel Co. 331
Guiberson Corporation ...New Equipment 1-4
Gulf Coast Machine & Supply Co. 48-49
Gulf Refining Company 354

H

Halliburton Oil Well Cementing Co..... 42
Hardway & Cathey 348
Harrisburg Pipe and Pipe Bending Co. .....Inside back cover
Harrisburg Pipe & Pipe Bending Co. of Texas ..... New Equipment 114-115
Hercules Motors Corporation 299
Hercules Supply Company ..... *
Hercules Tool Co. .....New Equipment 125
Heydrick Mapping Company 340
Hinderliter Tool Co. ....New Equipment 64-65
Hirsch & Brown 348
Hoover Steel Ball Bearing Co. 261
Hope Engineering & Supply Company 33
Hopkins, Edwin B. 347
Houston Engineers 323
Houston Pipe Line Co. 325
Houston National Bank ..... *
Houston Pump & Supply Company ..... *
Hough Manufacturing Co., Charles N. 7
Hughes Tool Co. .....251-258-Back cover
Humble Oil & Refining Company 35

I

International Derrick & Equipment Co. ..84-85
International Supply Co. New Equipment 56-57
International Vacuum Drilling & Coring Co. *
Iron King Manufacturing Company ..... *

J

Jarecki Manufacturing Company 293
Jefferson Union Company ..... *
Jensen Brothers Manufacturing Company.. 94
Johns-Manville, Inc. ..... *
Jones Company, The S. M. 342
Jones & Laughlin Steel Corp. ..... New Equipment 92
Jones-McLaughlin, Inc. 329
Josey Oil Company 345

K

Kansas City Hay Press Company 285
Keltner Mfg. Company 305
Kerotest Manufacturing Company 11
Keystone Pipe & Supply Company 336
Kirby Petroleum Company 349

L

Lancaster & Allwine 348
Landis Machine Company 5
Larkin & Company ..... *
Layne & Bowler 92-93
Le Bus Rotary Tool Works New Equipment 83
Leidecker Tool Company 15
Leonard, P. G. 313
Loomis Oil Well Control Co. 265
Lorraine Corporation 43
Lucey Manufacturing Corporation 247
Ludlow Valve Manufacturing Company ... *
Ludlum Steel Company ..... *
Lufkin Foundry & Machine Co. 315
Lunkenheimer Company 23

M

M & V Tank Co.....New Equipment 52-53
MacClatchie Mfg. Company.....349
Magnolia Petroleum Company 36
Maloney Tank Mfg. Co....New Equipment 49
Manzel Brothers Company 324
Marco Light & Power Corp..... *
Marion Machine, Foundry & Supply Co....309
Maverick, Phillip 348
Mayo Hotel 54
McEvoy, J. H., & Company 320-321
McGregor Working Barrel Co., Inc.....324
McIntosh & Seymour Corporation.....283
McMan Oil & Gas Co. 351
Meier Lubricating Co., The E. C. ..... *
Metric Metal Works.....New Equipment 31
Mexia Planing Mills 347
Minnehoma Oil & Gas Company.....342
Mission Sales Company 50
Morrisey Torpedo Company ..... *
Moore, Lee C., & Co....New Equipment 34-35

N

Nabors Co., W. C. 322
National Petroleum Engineering Company..340
National Pigments & Chemical Co. 331
National Supply Companies 34
National Transit Pump & Machine Co.... ..... New Equipment 96
National Tube Company 267
National Turnbuckle Derrick Company.... 52
Neilson Mfg. Co., A. H. 311
Norris Brothers, Inc. ..... *
Northrup Equipment Company ..... *
Norvell-Wilder Hardware Company.....319
Nuttall Company, R. D. 28

O

Oil City Iron Works 289
Oil Country Specialties Mfg. Company.... 40
..... New Equipment 14-15
Oil Field Tool Company.....335
Oilwell Accessories Company..... ..... New Equipment 113
Oil Well Supply Company 77
Oklahoma Contracting Co..New Equipment 47
Oklahoma Steel Casting Company.....47

P

P. & H. Valve Company.....346
Pacific Oil Tool Co.....New Equipment 100
Parkersburg Rig & Reel Company..... 30
Pattin Bros. Company ..... *
Peden Iron & Steel Company.....332
Petroleum Iron Works.....316-317
Petroleum Rectifying Company..... 26
Petroleum Register, The ..... *
Petrolia Supply Company 342
Philmack Company 338
Pittsburgh Steel Products Co..... *
Phillips Petroleum Co....New Equipment 120
Portable Rotary Rig Company....Insert & 281
Price, W Armstrong ..... *
Producers National Bank.....344

R

Ramsey Oil Producers 313
Ranney Oil Mining Company.....344
Ratigan, J. P.....New Equipment 97
Reading Iron Company .....Insert
Red Devil Burner Company.....249
Red Bank Oil Company 326
Reed Air Filter Company ..... *
Reed Roller Bit Company..... ....Inside front cover, New Equipment 7-10
Reid, Joseph, Gas Engine Company..... ..... New Equipment 95
Regan Forge & Engineering Company.... 27
Republic Supply Company 269-274
Rex Supply Company ..... *
Rossendale Reddaway Belting & Hose Co. ..... New Equipment 98

S

Sargent Engineering Corporation ..... *
Shaffer, J. E., Company 341
Shaffer Oil & Refining Company.....351
Shaffer Specialty Co....New Equipment 41-44
Shaffer Tool Works 332
Sinclair Refining Company 295
Sivve: Steel Casting Company..... *
Skelly Oil Company.....New Equipment 19
Smith, H. C., Manufacturing Company.... ..... New Equipment 27
Howard Smith Company 249
Smith Separator Company ..... *
Sonner Gas Burner Co., The P. J.....330
South Chester Tube Company.....12-13
Southern Engine & Pump Company.....337
Southern Brass Mfg. & Plating Co.....347
Southern Pacific Lines ..... *
Spang & Company 37
Spencer Trailer Company 297
Standard Collapsible Rotary Drill Co....88-89
Standard Rail & Steel Co.....328
Star Drilling Machine Company, The..... *
States Engineering Company ..... *
Steiner, Dr. George 347
Stone, Jesse R. 348
Sullivan Machinery Company 81-328
Sullivan Company, The ..... *
Surplus Sales Company ..... *
Swiftsure Petroleum Company 343

T

Taubman Supply Corporation 302-303
The Texas Company 353
Templeton, Kenly & Co., Ltd. ..... *
Texas Cyclone Fence Company..... *
Texas Oil Pump Company ..... *
Tips Engine Works...New Equipment 126-127
Titusville Iron Works, The.....245
Trimont Manufacturing Company.....329
Trumble Gas Trap Company.....347
Trinity-Portland Cement Company..... ..... New Equipment 29
Tulsa Iron Works Co.....New Equipment 21
Tyler Tube & Pipe Company, The.....343

U

Union Machine Company 21
United Iron Works....New Equipment 110-111
United States Torpedo Company..... *

V

Victaulic Co. of America..... *
Volz Engineering Equipment Company.... 31

W

Wagner Supply Co.....New Equipment 79
Waldorn Corporation, John 326
Ward Chemical Company 322
Waukesha Motor Co.....New Equipment 85
Webster, C. W. 348
Westcott & Geeis, Inc...New Equipment 76-77
Westinghouse Electric & Mfg. Co..... 4
Wheeling Steel Corporation ..... *
Whitlock Cordage Co. New Equipment 93
Wickwire-Spencer Steel Company, Inc.... *
Williams & Co., J. H. 243
Williamsport Wire Rope Company..... *
Wilson Oil Tool Corporation.....Front cover
W-K-M Company 96-97

Y

Yale & Towne Company..... 8
Young Engine Corporation 9

Z

Zelnicker, Walter A. 344
Zero Hour Torpedo Co....New Equipment 87

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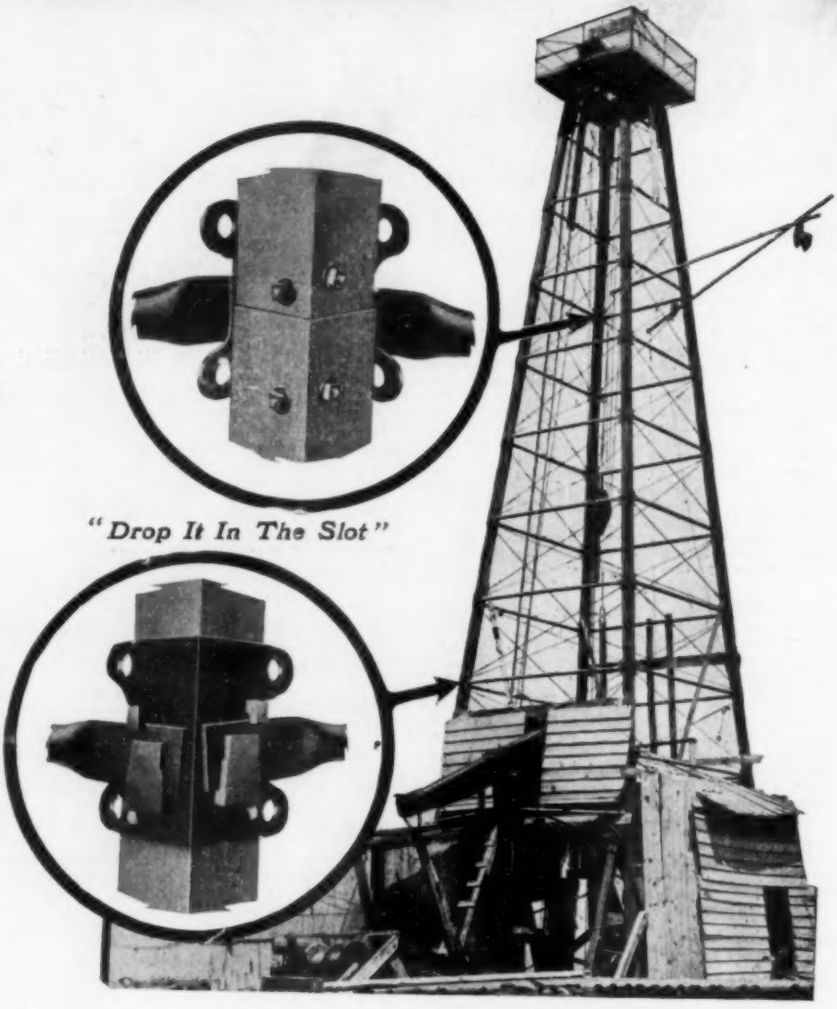

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December 3, 1926 Volume 43, Number 11

The OIL WEEKLY

TABLE OF CONTENTS

ANNUAL NEW AND IMPROVED FIELD EQUIPMENT REVIEW.....(See Equipment Section)

Standardization to Occupy Most of Time at A. P. I. Meet 55
By Grady Triplett

Progress of Science in the Production of Oil—What the Future Holds 56

Market Situation Presents More Cheerful Outlook..... 58
By Kent Ridley

Drilling Equipment Improvements Made During the Year 59
By A. R. McTee

November Output Exceeds October by Big Margin..... 61
By A. R. McTee

Definition of "Deep Hole" Being Changed Continuously 63
By Wallace Davis

Drilling Restrictions Removed at Seminole City..... 64
By Roye Munsell

Storage Method Speeds Operations and Stops Deterioration 65
By George Reid

The President of the A. P. I..... 66

W. S. Farish at His Desk..... 67

Midwest Handles All Material From Central Warehouse 68
By Brad Mills

Describes Process of Cementing Under Pressure 69

Record Depth Tests Efficiency of Drilling Tools..... 73
By George Reid

Empire Warehouse System Keeps Permanent Inventory 79
By Roye Munsell

Wilcox Sand Objective of Deep Drilling in Oklahoma 83
By Hastings Faulkner

Busy Winter for Steel Mills Supplying Pipe for Lines Building in Texas 90

Panhandle Field Work Curtailed for Winter 91
By H. H. King

Summary of Field Operations for November.....291

Huntington Beach Comeback Upsets Production Forecast 298
By George Reid

Crude Price Quotations 294
Production Figures for Past Week 301
Production Figures for 1926 301
Completions for the Past Week 304
Wildcat Drilling Report 314
Permits Granted for New Wells 333
Letters of Paul Peebles, P. S. G. 350
"Squeaks" From the Bull Wheel 352

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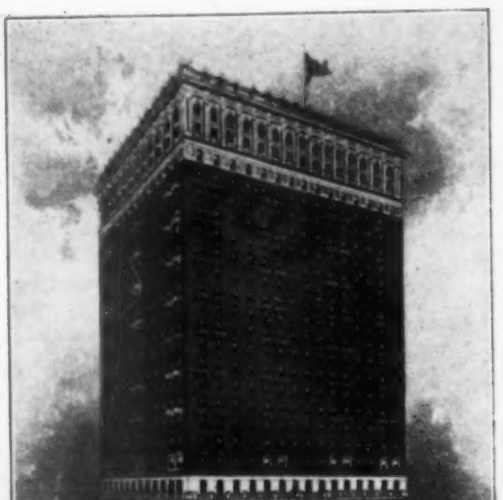

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WELCOME, DELEGATES—A. P. I.

Standardization to Occupy Most Of Time at A. P. I. Meet

Record attendance expected will tax Tulsa facilities; committees begin Monday in advance of general sessions

By GRADY TRIPLETT
Staff Representative

Tulsa.—One serious problem, with dozens of minor ones, have had the attention of a score of men in Tulsa for several weeks.

The one important problem may be put in this question—How can you put 2500 or 3000 men in 1200 hotel rooms?

In short the American Petroleum Insitute, meeting here December 7, 8 and 9, is due to have the largest attendance in its history. Rooms in hotels are just so many. The committee having hotel reservations in charge, headed by W. C. Franklin, has spent much time in trying to solve the problem.

And this assurance has come out of its headquarters, just before time for the meeting—that there will be a sleeping place for every man. Tulsa is going to be crowded; crowded like a college town the night before the home-coming football game.

While W. C. Franklin and A. V. Bourque have borne the brunt of the hotel reservation task, it has been the concern of many others, some on that committee, some on other committees, some on no committee at all.

Not all the rooms available are in the Mayo, which is to be Institute headquarters, the Tulsa and the Ketchum. But the small and excellent hotels, the Albany, the Wells, Corona and others will each have their rooms crowded to the limit.

Why a Big Gathering

The position Tulsa holds in the petroleum industry makes the record attendance certain. Tulsa is the operating headquarters for dozens of concerns, having executive headquarters elsewhere. Officials and directors of these companies are coming to this Institute meeting in numbers never before attempted. Some of the companies will have their annual meetings of directors in Tulsa, co-incident with the Institute sessions. Some of these meetings will be before the Institute dates, some will be afterward.

In few instances have those of the hotel committee been able to grant the request for as many rooms as were originally requested for concerns, expecting to make this double use of the Tulsa gathering. It has been necessary in scores of instances to write back and ask that the number of rooms desired be reduced. As many as 40 rooms have been asked by some concerns.

These requests have not been exorbitant, from the viewpoint of the concern, preparing to bring a large delegation to Tulsa, so company business may have attention, along with the opportunity of attending sessions of the Institute.

In most instances, these concerns have reduced the number of rooms necessary.

Aside from the hotels, hundreds will stay with friends. Other hundreds live in Tulsa, while still others will come from other cities near Tulsa, being able to return to their homes each day, if hotel space is not aatainable.

2500 or 3000

A registration of 2500 is considered certain by those making local arrangements. The list may run to 3000.

The five directors of the American Petroleum Institute, living in Tulsa, have had charge of arrangements. E. B. Reeser, president of the Barnsdall Oil Company, is general chairman. Others are W. C. Franklin, Tidal Oil Company, hotels; D. E. Buchanan, Chestnut & Smith Corporation, entertainment; P. M. Miskell, Empire Refineries, transportation; W. G. Skelly, Skelly Oil Company, finance. John Mayo of the Mayo Hotel, has served with all committees.

Each has had his own committee. The Chamber of Commerce, the railroads and other semi-public organizations have given every assistance toward completing arrangements, so there will be comfort and entertainment during the Institute.

This meeting of the Institute will have something different in the way of entertainment. For one thing, there is not a building of sufficient size, having proper facilities for a banquet. So there will be no banquet. Instead there will be an oil field dinner, with the grounds of the International Petroleum Exposition as the scene.

Other than the promise that it will be different and that dinner jackets will be out of place, nothing definite has been given out on the affair. But the committee on entertainment has so made its plans that those getting inside the exposition grounds will not soon forget the evening.

This affair will come Tuesday night, following the first day of the Institute meeting proper. Tickets are $1.50 and the warning from headquarters has been that tickets should be bought before December 4.

The man coming up in the oil industry via the derrick floor and the oil field boarding house, will have his memory jogged by this affair. For the meal will smack of the days when it was every man for himself when meal time came.

While the Institute sessions do not begin until Tuesday, the committees will begin functioning Monday. For that evening a wrestling match is on the card as part of the entertainment for the Institute. Headliners in this wrestling card will be Ed (Strangler) Lewis and Raefel Grenna.

These affairs, Monday and Tuesday nights, complete the organized entertainment features.

Special trains from north, south, east and west, are to bring many of the Institute delegates. It is likely that some special trains will be run in order to return delegates to their homes.

Standardization Committees

Like the two previous meetings of the Institute, the work of the Division of Standardization will occupy a great share of time. Ten of these committees are to meet Monday, December 6 in different rooms of the Mayo Hotel. Their work will consist of correlating work done since the standardization conference in Colorado Springs last June, and then the outlining of work to be contained during the next half year.

Something new for Institute meetings will be the first aid contest, which will take place Wednesday afternoon. Plans are to have this one on the roof of the Mayo Hotel. It will be under auspices of the Petroleum Safety Council of the Mid-Continent Oil and Gas Association. Teams from Mid-Continent oil companies will compete. Entrants have been trained by experts of the United States Bureau of Mines.

Other organizations within the petroleum industry are cooperating with the Institute in programs of some of the group sessions. Wednesday evening at 8 o'clock, group No. 1, having the general topic of "Oil Production Problems," will have the cooperation of the Mid-Continent Oil & Gas Association, the Chamber of Mines and Oil, and the Rocky Mountain Oil & Gas Association.

Thursday afternoon, group No. 1, will take up the general subject "Standardization of Improvements in Oil Field Production Methods and Equipment." Co-operating in this program will be the Mid-Continent Section of the American Society of Mechanical Engineers. This conference will be held at 2 p. m. in the Junior Ball Room of the Mayo Hotel.

The meeting will be under the direction of H. B. Bernard, chairman of the Mid-Continent Section of the A. S. M. E. and vice-president of the Sinclair Oil and Gas Company, F. Ray McGrew,

(Continued on page 62)

Progress of Science in the Production Of Oil—What the Future Holds

An Editorial By Kent Ridley

DEVELOPMENT of the science of producing oil has been rapid. Men are still active in the industry who can remember when tools were crude and methods entirely manual. Tests were located entirely on surface indications and hunches, and many of the most important discoveries were incident to explorations made for entirely different purposes than producing oil. While the progress made in the technique of recovering oil has been rapid, it has been so uniformly continuous that those who are close to the work have had it unfolded to them so naturally and gradually that it is hardly perceptible to them. But a kaleidoscopic view, if such could be had of the years since recovering oil became a business, would show a swiftness of action that, considering the wide range of activities, has had no parallel in this rapidly progressing modern age.

Other units of industry have made remarkable strides but no others have called for simultaneous progress in as many branches of science and technology as has the oil industry. And in other lines of endeavor the scientist has led the way in pioneering, while in oil development first progress was by strength and awkwardness. However, this developed a technique which engendered opposition on the part of some of the old timers to the science which came in when necessity for it became imperative. Only the stress of drilling to great depths and the difficulty and expense incident to it, has made it possible for science to take the leadership in development. This leadership was accomplished close upon the heels of toleration, and even yet there are production men who are skeptical of what science can do in this business.

Science in its relation to the art of drilling wells and recovering oil first brings up the thought of geology as the most exact science touching upon production. But while the geologist has played a big part in the advancement of the industry, his position has been as much behind as in front, and his abstract theories are valueless except as the engineer and the trained army of men behind him, whether in the foundry or shop or in the field, have developed skill in going where geology pointed and getting samples from which geology can get bearings for following after.

Not that the worth of the geologist is depreciated. The development of his science as applied to petroleum has been in step and sometimes ahead of the industry, and without his aid the costs of recovering the volume of oil required to maintain supply in keeping with ever increasing demands would have been prohibitive. And it should be remembered that one of the great accomplishments of the oil industry has been providing oil at prices which encouraged demand.

Geology's principal contribution has been the charting of the strata and to set up guide posts for the guidance of the driller. It has paid its way in pointing out productive areas to be drilled, and has returned a greater profit through minimizing futile drilling effort.

The mechanical division of oil production has worked hand in hand with the geologist, as is shown by the remarkable development of tools whose one purpose is to recover the information the geologist wants from the interior of the earth.

The real scientific advancement of the industry, however, has been the perfection of its tools. As demands have been made for tools with which to perform the task of drilling deeper into the earth and through harder or more difficult formations, the tool maker has been ready to meet that demand. And in meeting it he has anticipated further demands, so that the oil industry has had created for it tools which are unique both in utility and strength. Borrowing only scantily from other branches of industry, the oil industry has reshaped and improved each item it has borrowed, and in addition has developed literal hundreds of items which are applicable only to its individual needs.

The year which is closing is an example of what was said above of the gradual and continuous progress of the technique of oil recovery. Records for depth of drilling have been made during the year, but those are accepted as a matter of course by the men who have drilled the hole and those who made the tools with which to drill. There is nothing spectacular about it, as going a few hundred feet deeper this year is only repetition of what has been done in previous years, and the men are now looking forward to still deeper explorations in the years to come and as such may be demanded of them.

In like manner developments of better and more efficient tools during the year have been accepted as a matter of course. Not that some of the developments are not such as to be almost revolutionary, but because this business is moving too fast to become excited over such incidents. The fact that practically every tool and appliance used in the drilling of wells, recovery of oil and its transportation has been made more efficient by the perfection of improvements which affect either the tool itself or conditions directly affecting it, is accepted as a matter of course. It has been done before and will be done again—in fact it is continuously being done, and no point of perfection will ever be recognized by an industry which was born progressing and has never learned to rest.

Most important of all is the development of men—men of skill and of an indomitable spirit who are keeping aloft the torch of the pioneers who have blazed their own trail in forcing this infant of industries through to the front rank so that it is second only to agriculture in importance to the comfort and prosperity of the world.

The most prominent characteristic of the oil industry is that it recognizes no obstacle as such. This is true, from the men who sit around the council table and appropriate such sums—most often millions—as are required to do the job, to the humblest worker in the field who literally puts his shoulder to the wheel.

Oil has shown the world a race of men who can accept their successes as a matter of course and who ask no sympathy when they fail.

That further progress will come with the future is evident from the improvements of the past. Having proved ability to drill to such depths as may ever be reasonably required, the next step in that direction is to so perfect the drilling apparatus that the drilling of a hole to 8,000 feet will be approached with the same confidence as one to 3,000 is now undertaken.

In conservation, the problem of preventing contamination of oil sands through isolation of the several strata has been definitely solved. The mechanics of that will be still further perfected. But it is in the ultimate recovery of a larger percentage of oil from the sands that most progress is to be made. This problem is now being approached from several angles. Apparently each individual situation is its own problem. Much progress has been made in this, although the bulk of the research has been to the end of lowering the cost of production rather than the broader problem of increasing ultimate yield.

That further progress in reviving production from depleted sands has not been made is no doubt due to the lack of universal need for such recovery. When supply from more prolific sources declines to the point where serious attention must be given to getting the unrecovered oil from known sources, it may confidently be expected that co-operative effort will solve the problem. That is unless it is solved before.

Practical Standardization

IT is to be hoped that every individual connected with the oil industry appreciates the unselfish service that is being rendered by the members of the Standardization Committee working under the direction of the American Petroleum Institute.

The Institute got its inspiration from a group of men who received their vision of service while called together by the nation in its hour of need. This ideal of service has been perpetuated in an organization whose purpose of co-operation for their mutual good and for the benefit of the public, has gathered together a wealth of talent that has hardly been equaled by similar representation in any other branch of business.

No other industry is so all-inclusive as to embrace, as does petroleum, all steps from production of the raw material, through various stages of transportation, manufacture and sale down to the ultimate retail consumer. Nor do other industries group together in one federation so many distinct but closely associated activities with as many technical angles as does oil.

Standardization of equipment and practice is the first great undertaking of the Institute. Partial accomplishment of this has already reduced operating costs and ultimately it will mean the saving of vast sums not only to the Industry itself and its individual units, but to the manufacturers supplying equipment. In the end this saving will be passed on to the public, both in lowered costs of the product directly and indirectly through dividends of the companies who themselves are a substantial part of the public.

Standardization has been made practical by the directors of the program by dividing the subjects to be treated into groups. It is thus possible to gather men with kindred interests and kindred problems to discuss them informally in language which all can understand.

Group sessions outlined in the program for the coming annual gathering are to be opened with papers by technical men, followed by general discussions in which will be exchanged ideas gained through practical experience. Specialization of sub-

(Continued on page 71)

Market Situation Presents More Cheerful Outlook

Abatement of Seminole threat and normal handling of Panhandle oil strengthens producers position

By KENT RIDLEY
Staff Representative

GLOOM which threatened to engulf the oil business over the end of the year and spoil the producers' Christmas has been dispelled now that the "distress" oil in the Texas Panhandle is to be taken up into regular channels, the West Texas situation well cared for and prospects that Seminole City after all is not such a danger to the security of oil prices.

Improvements in the refined oil market and continued strong demand for fuel oil has also revived the hopes of refiners who are now expecting a demand and price which will permit them to make it through the winter.

Forecasters have it that unless Seminole production assumes proportions not now anticipated, posted prices of crude will remain undisturbed through the winter and an early raise when the spring demand is immediately in prospect.

Seminole City Loosed

The outstanding event of the week in Oklahoma crude oil circles was the lifting of restrictions on development in the Seminole City pool. Holders of leases are now free to drill in new wells and stimulate old ones at their will.

Whether this will have any bearing different from what would have resulted with restrictions continued, is a matter of guessing only. One man will say the lifting of restrictions means a building up of production there. Another insists that output would have been as great with restrictions on as with them off.

The two opposing views go for the whole matter of restricted development there. Those owning the leases and the first wells contend that the development restrictions, placed through agreement, resulted in lease owners failing to get great amounts of oil, which would have come had wells not been pinched in. Some engineers contend that the restrictions really had negligible bearing on the field, countering with the opinion that well pressure would have dropped and wells gone dead even without the restrictions.

Restrictions at Seminole have been a "headache" to the holders of choice leases. To others, it has meant nothing.

Seminole City proper, regardless of which school of thought is correct, is not the factor in the crude oil market that it was a month back. Then the pool was headed for 200,000 barrels daily on cautious estimates and calculations. Many predictions were that it would reach 300,000 barrels daily. Now 150,000 barrels daily is the highest estimate to be had on Seminole City proper.

This does not take into account Searight and Earlsboro. Either of these may match what Seminole City has done. One or both may even go to the highest figures previously predicted for Seminole City. Only sufficient drilling to outline the size of the pools can reveal this.

Withal there is a decidedly better feeling toward crude oil prices in Oklahoma on account of the turn of affairs at Seminole City. It is now classed as a field from which there is little more to fear. A month ago it was looked upon as something that might trim off the higher posted prices until the owners of smaller wells found themselves forced to sell oil at below its cost of production.

The common opinion of the hundreds of producers of oil in small amounts is that Mid-Continent prices will hold their present level throughout the winter. For the spring he sees the return of premiums, followed by higher posted prices. That is the cycle of the past, consequently it is the hope of the future.

Seek Osage Drilling Delay

Holders of leases on Osage Indian lands are seeking postponement of drilling obligations through the Department of the Interior as part of an effort to hold production down and to keep prices up. The Osage Oil & Gas Lessees Association has asked for a hearing at which an effort will be made to get permission to postpone drilling time requirements one year. The department has granted postponements of three, six and nine months in the past and will be asked to grant 12 months this time.

Effective December 1, Humble Oil & Refining Company changed its posting on Wheeler County (Panhandle) crude from the flat price of $1.25 per barrel to a gravity basis with 28 to 28.9 gravity at 90 cents and five cent differential, which makes 44 and above gravity $1.70.

Export Buying

The entry of export buyers into the Mid-Continent last week helped to hold the refined market firm. Advances in both gasoline and kerosene prices are anticipated.

U. S. Motor gasoline sold over a range of 8½ to 9 cents f. o. b. group 3 last week. Kerosene dropped to 6½ cents. Gasoline at 9 and slightly higher, and kerosene at 7 cents are now the hope of refiners.

The North Texas refined market started off the week in a firmer position than has been offered for a number of weeks, and a small volume of buying of gasoline for domestic and export delivery strengthened prices on this commodity, while fuel oil is enjoying a peak price of the year.

Sinclair Refining Company placed orders for about 125 cars of 64-66 gravity gasoline at 10¼ cents for export shipment, while purchases made earlier in the month by Atlantic and Carson induced a number of North Texas plants to switch over from making domestic cuts from their crude only to making the high test product. This curtailment of output on the U. S. motor grade, along with increased orders for the product, resulted in prices stiffening a fraction of a cent over the past week. U. S. motor gasoline was moving at prices ranging from 8⅝ to 8¾ cents per gallon early this week.

DETAILS ON CRITICAL FIELDS

Pool—	Oil Wells Completed	Total Initial Production	Initial Per Well	No. Producing Wells	Daily Production Barrels	Daily Production Per Well	Rigs Up	Wells Drilling
PANHANDLE								
Hutchinson County	600	386,130	644	567	148,955	263	61	221
Gray County	62	23,585	380	59	9,140	155	12	71
Carson County	63	18,465	313	61	3,605	59	18	31
Wheeler County	12	3,115	259	11	1,100	100	4	16
Panhandle total	737	431,295	585	698	162,800	233	95	339
OKLAHOMA								
Seminole*	41	167,895	4,418	38	95,338	2,509	68	170
Earlsboro*	1	4,000	4,000	1	6,000	6,000	10	9
*Applies to Wilcox sand wells only.								
CALIFORNIA								
Huntington Beach T'site				72	45,975	637	17	120
Ventura Avenue				71	59,000	831	10	28
Seal Beach				3	7,200	2,400	11	5
GULF COAST								
Spindle Top	102	505,523	4,956	88	90,550	1,029	3	35

Drilling Equipment Improvements Made During the Year

Automatic bit control and metallurgical research most important advances in scientific field practice

By A. R. McTEE
Staff Representative

IT is the opinion among many of the chief petroleum engineers that recent developments in drilling equipment likely to have the most influence on future rotary operations are those relating to scientific control of the bit itself, such as the Hild Differential Drive and the Halliburton Automatic Drilling Control. Both these have for their purpose positive and automatic control of the bit. This is done by means of a differential which takes care of the feeding of the bit in various formations, eliminating to a large degree the personal element in drilling.

One company experimenting with Hild Drive in the Gulf Coast, is compiling extensive data regarding the results accomplished in the different formations, and upon the strength of what has been done with one outfit, is putting seven others into operation.

In California, both the Hild Drive and the Halliburton Control are commonly used with highly successful results.

Automatic feeding of the bit in rotary drilling means much more than can be expressed in words. Rotary drillers have much to their credit and are responsible for bringing in some of the biggest fields in this country, yet an automatically controlled device that accomplishes the same results obtained by the driller is bound to overcome many of the difficulties that arise because of the human element.

The two devices mentioned are undoubtedly due to revolutionize rotary drilling. They are well past the experimental stage now. The Hild Drive depends upon electricity for its power, but Halliburton's Control can be used with electricity, steam, or gas or oil engines.

Deeper drilling has necessitated heavier equipment. Outfits suitable for putting down a 3000-foot hole cannot be depended upon when twice that depth is the goal, and this fact is being recognized by all the manufacturers.

Metallurgical Research

This improvement in equipment begins with the material itself. More attention is being paid to metallurgical research to determine the kind of steel best suited to withstand the severe duty imposed by deep drilling. Manufacturers are turning more to alloy steels, metals with special qualities of hardness such as Stellite, manganese steel, and are taking steps to see that these materials are perfect. One prominent manufacturer has recently completed a drilling outfit for use in a foreign country, built entirely of alloy steel, principally manganeses. Such an outfit is, of course, expensive, but the operator using it is assured of the best performance in his equipment.

Operators in this country are not ready for such rigs at this time, but as drilling depths increase, it is not unlikely that the all-steel rig will be general equipment.

Twin drilling engines are rapidly becoming the rule now. Operators are demanding reserve power to enable them to make more speed. This is not surprising when one realizes the small amount of time the bit is actually on the bottom making hole while a well is drilling. One of the big companies with big holdings in the Texas Gulf Coast recently kept records covering certain drilling operations and found that of the total time required to drill a group of wells, the bit was on bottom only 17 per cent of the time.

Heavier engines with bigger boilers of higher steam pressures are undoubtedly a step in solving this problem. Boiler sizes have increased until the 100 horsepower types set up in batteries ranging from two to eight are common lease equipment.

Heavier Equipment

To supplement the heavier engines, three speed drawworks are being turned out by rotary equipment manufacturers. These have been made necessary to handle long strips of casing with speed and safety.

Drawworks shafts have been lengthened. Drum flanges have been increased, and brake rims widened and improved to meet the demands of deeper drilling. One company that furnishes much equipment in California, now makes all brake rims of rolled steel.

Manufacturers in the Gulf Coast have introduced the air and water cooled brake drum, but these have not been widely used so far. The principle has been used for many years in the logging industry, but its application to oil drilling machinery is new.

Rotaries themselves are being constructed of all-steel. Roller bearing and ball bearing tables are also now being built.

Traveling blocks have not shown any particular tendency toward change in size, but there is constant improvement in their construction. Manganese sheaves are common, as are roller bearings.

Heat treatment of practically all rotary equipment is now common. This process extends from the manufacturer to the field man, for heat treatment of bits is the ordinary field practice.

Heavier cables are gaining favor. The inch and one-eighth size is now in use in a number of fields.

Pumps capable of operating under higher steam pressures and fluid working pressures have made their appearance in many fields within the past two years. Steam pumps of 200 pounds pressure are now a part of the equipment on heavy rigs, and other pumps to handle fluid working pressures as high as 1500 pounds are obtainable.

For cable tool drilling single engines are in common use. Sizes have increased until the 16 by 16 is common. The most popular size however, is 14 by 14.

Automatic Lubrication

A pronounced tendency that simplifies a good many problems is that toward automatic lubrication. Wherever possible manufacturers are enclosing working parts of equipment in an oil bath, and this with the splash system of lubricating is now quite generally applied to engines and pumps. This helps to make equipment fool-proof. Where the oil bath or splash system is impossible, force feed is used.

It would not be surprising to see the next development in drawworks introducing oil bath bearings. In fact this step is now being anticipated by some of the leading manufacturers.

Pumping equipment is heavier. Long stroke pumping outfits are now relied on to handle large volumes of fluid and there are a number of types that are successful. In this connection the hydraulic outfit manufactured by the Pacific Oil Tools Corporation is perhaps capable of pumping as much fluid as any other on the market. It is being used in California and the Mid-Continent with considerable success. A 17-foot working barrel is generally used with this installation.

Sucker rods depend largely on the quality of the metal composing them for their performance and the highest grade steel is used in most rods. A

number of supply companies have special joints which they claim minimizes the danger of unscrewing or breakage. Rod rotors are now considered essential equipment on every pumping well by most of the companies. These vary in design. The W-K-M Company is now marketing a universal type that can be used on any kind of a jack.

Gas Lift

Although not altogether an improvement in equipment, the use of the gas lift for flowing wells should be mentioned, for it is looked upon by many operators as a sure solution for most pumping problems. Certain engineers who have recently made surveys in the Texas Panhandle are convinced that the gas lift method is applicable to that territory, and have made the prediction that it is the only method that will overcome the paraffine difficulties met there.

In California, the gas lift has had its widest application, but it is spreading and in the Mid-Continent there are various leases where the system is being tried out.

With the rapid spread of the use of electricity to pump wells has come the development of corresponding euipment suitable for such installations. Direct connected reduction gears are the outstanding achievement in this connection. A number of these have been placed on the market recently and are, generally speaking, giving success. In many fields the old standard rig is giving way to these pumping units, almost exclusively. A few companies have standardized on certain types of this equipment using it on all new installaitons.

The pumping of deep wells from central powers is also calling for heavier and special-built jacks, and there have been changes to meet this demand. In the Corsicana-Powell district a few companies are experimenting with pumping 3000-foot wells from a power using a heavy engine and a heavy type jack. If this practice becomes general, which is highly probable, jack manufacturers will have to increase jack dimensions generally.

Electrical drilling rigs have come into use in California and are used to a slight degree in the Mid-Continent. However, electricity for drilling is not yet widespread. This of course is due to the fact that in very few instances is there power available.

The portable electric drilling outfit is predicted and will probably be a reality before next year is gone. An Eastern manufacturer recently had representatives in the Gulf Coast territory making a survey to determine the feasibility and need for such an assembly and is now planning to build it. The plans call for a self-contained outfit that can be used on a wildcat well with as much ease as in a proven field.

Portable gas engine drilling outfits are now commonly used for wildcatting work, and recent developments in clutches for these rigs enable them to drill as deep as 3000 or 3500 feet.

Portable rigs built especially for structure work are now commonly used and many companies operate these exclusively in their exploration.

Remarkable progress is being made in safety problems. Nearly all the major operators are co-operaitng with the state industrial commissions and departments of welfare to provide for safety appliances on all manufactured items that involve danger in operation. In many states various guards on moving machinery are compulsory, and operators are compelled to use the safe equipment.

Jordan Charlton Dies From Burns

Amarillo, Texas.—Fatal burns were received by Jordan Charlton, driller for the Humble Oil & Refining Company, despite the heroic efforts of R. W. Clark, former professional baseball player and tool dresser on the same rig, in going into the flames to retrieve Charlton's unconscious body.

The two men were engagd in drilling a well for Humble in the Wilcox-Pampa field about 8 p.m. November 22, and a flow of five million feet of gas and light spray of oil became ignited by friction when the tools were being run. Both men were stunned by the explosion, but Clark was less effected and thrown out of the path of the flames. Upon recovering consciousness, Clark went into the burning derrick to pull Charlton out of the flames, and in doing so the oil saturated clothing of both men caught fire. Clark rolled Charlton on the ground until the flames on the latter's clothing were extinguished, and while Clark was engaged in tearing off his own burning clothes Charlton rose and started off in a dead run across the valley. The fatally burned man was overtaken by Clark after a chase, but died from the effects of the burns at 3 o'clock on the following morning.

Charlton was 36 years of age, and was raised at Beaumont. He is survived by a wife and two small children, his mother and two brothers, J. M. Charlton of The California Company, Colorado, Texas, and Joe Bailey Charlton, who is with the Gulf Production Company, Houston. The body was taken to the home of the deceased at San Antonio for burial.

Ralph T. Hatch, general manager of sales for the Reading Steel Castings Company, Bridgeport, Connecticut, was in Houston last week on his way back to Bridgeport after a five weeks' trip to the West Coast and the Mid-Continent field. He was accompanied to Houston by Larry Kennedy, Reading Steel Castings' representative in the Mid-Continent at Tulsa.

West Texas Wildcatters Get Extensions

Cisco, Texas.—The Lester-Fry field in western Brown County scored a 1200-barrel producer and a half mile extension to the south during the past week. The Texas Company's W. N. Pugh 2 furnished the big flow of 44 gravity oil from regular oil sand pay at 1322-32 feet. Price & Daniels et al's J. J. Andrews 1 extended the field to the south with a flush flow of 150 barrels from sand pay at 1313-24 feet.

Another oil producer was added to the Baum pool, located west of Cross Plains, Callahan County, when the Mook-Texas Oil Company's Baum 1 made 100 barrels daily at 1650-56 feet.

Western Shackelford County scored another oil pool during the past week when J. K. Simmons et al's wildcat test on the Mrs. B. A. King land, section 6, T&P survey, block 14, developed a hole full of 38 gravity oil from sand pay at 1715-27 feet, total depth 1736 feet. Humble will probably connect a line to this well.

In Jones County the Hurley Oil Company's (Gibson-Johnson) wildcat test on the John Sears land, lot 28, DeWitt County school lands, failed to produce at the horizon furnishing production in the Noodle Creek field, and early this week was drilling ahead at 2535 feet. This test is about three miles east of production, and was being followed closely for a possible extension to the producing area. The Phillips Petroleum Company's Joe Winters 1, discovery well, was put on the pump Sunday and made 429 barrels during the first 16 hours through 3-inch tubing, with a total depth of 2727 feet. This well has averaged about 700 barrels daily since its completion early last September. Phillips' south offset to the discovery well is showing for a 300-barrel pumper at 2523-27 feet, and Mid-West's Thornton 1 is swabbing 500 barrels daily at 2520 feet.

Tulsa Geological Society Meets Saturday Night

Tulsa—The Geological Society will hold its next meeting Saturday, December 4, at 8:00 P. M. in the auditorium of the Municipal Building. Two papers will be presented by society members and discussed. The first paper will be presented by George S. Buchanan, on the distribution and correlation of the Mississippian deposits in Oklahoma. H. B. Goodrich, consulting geologist of Tulsa, will present "A compilation of all published matter regarding surveying of the deep borings, with its relation to the general subsurface geological correlations and practical operating."

The meetings of the Tulsa Geological Society are held on the first and third Saturday of the months which will continue through the winter months.

November Output Exceeds October By Big Margin

Gains in Oklahoma, California and Texas give month a daily average of 2,360,000 barrels

By A. R. McTEE
Staff Representative

WITH gains of more than 10,000 barrels daily in both Texas and California, and a boost of 73,600 barrels daily average in Oklahoma, production of crude for November exceeded that of October by 3,025,194 barrels. A grand total of 71,008,650 barrels was recovered, or a daily average of more than 2,360,900 barrels.

Oklahoma was responsible for 2,209,920 barrels of the total gain, and had it not been for the Seminole shut down agreement which was entered into on the seventh of the month, Oklahoma would have added perhaps two million more barrels. The shut down plan, however, has been followed out and lasted until the first of December.

Seminole

Practically all the Oklahoma gain was from the Seminole pool. During the month 47 wells were completed, 38 of which were producers. Most of the producers were from the Wilcox sand and their total initial yield amounted to 108,015 barrels. Total production of the field was 3,298,890 barrels.

At the time the shut down agreement was made drilling was materially checked, causing a corresponding let-up in production. Wells already producing at that time were pinched in so that the output might not exceed storage and handling facilities.

Operators rushed the completion of storage and additional pipe lines until on December 1 the pipe line capacity was about 104,000 barrels daily. Additional tanks were built and others are now being constructed. Pipe lines to take care of 150,000 barrels are anticipated by the middle of the month, and as fast as these facilities are completed drilling will increase. Consequently December will almost certainly show an increase over November at Seminole.

Huntington Beach

Drilling in the Huntington Beach townsite pool in California with the few completions at Seal Beach, Ventura Avenue and the other fields, gave California a total gain of 304,260 barrels, or 10,142 barrels daily. This kept California in the lead, but Texas crowded her with a daily gain amounting to 10,619 barrels.

At the close of the month California operations were showing a tendency to slow up, and indications are that the fields will be comparatively quiet this month.

North Texas

The high gravity oil producing district as a whole in Texas experienced a busy period during November, but due to the sharp reduction of Mid-Continent prices during the month operations in a number of fields began slowing down pending more stable market conditions.

The Texas Panhandle district climbed to new peak levels on daily production and led all other sections in the state on field work. This district reached 166,620 barrels daily during the last half of November from 678 active producing wells, but has since declined below this high mark due to insufficient new production coming in to offset the natural decline of large producers. Field work in the Texas Panhandle district has likewise started declining, with winter weather having some bearing on drilling operations.

The announcement of three pipe line companies building into the Texas Panhandle district during the latter part of November indicates that a more favorable market and price will be available for the crude in this district next spring and summer when the lines are completed.

Hutchinson, Gray and Wheeler counties scored important extensions to established oil producing areas during November, and these discoveries have paved the way for a large amount of new drilling in the district when conditions justify. Hutchinson County continued its lead as the most active section of the Texas Panhandle district, and is credited with having added 99 new oil producers with a combined initial flow of 36,275 barrels. This initial production was about half the amount added during October from 97 oil producers, thereby indicating the decline of the flush production in the field.

The semi-shallow sand pay in the Wichita Falls district was pushed three miles farther to the west during November when Roxana and Murchison-Fain Oil Company's Fluhman 1 showed a 200-barrel high gravity producer in sand at 1480-85 feet. This well is about three miles west of the original South Vernon field, Wilbarger County. November developments in Wichita, Archer and Young counties were mostly routine operations, with the Turbeville field in Archer County furnishing the most new production. N. D. Goldsmith et al uncovered a new pool in upper Young County and southwest of Olney from the regular shallow sand pay.

Montague County reached its peak on drilling operations early in November, but daily production continued on the upward grade through the month due to a heavy completion list from test started in October. Cooke County is rated as the next active area in

NOVEMBER U. S. PRODUCTION

Following is the gross estimated production of crude oil in the United States for November as compiled by The OIL WEEKLY:

State—	Barrels
California	19,060,500
Mountain States	2,743,250
Eastern States	3,322,500
Texas	18,829,020
Oklahoma	17,177,500
Kansas	3,441,360
Louisiana	2,064,300
Arkansas	4,370,220
Total	71,008,650
October	67,983,456

PAST TWELVE MONTHS

The record for the past twelve months is an interesting study for comparison purposes, the following table giving field statistics for all states in the Union.

Month—	Completions	Producers	Gas Wells	Failures	Initial Prod.
October, 1925	2,516	1.595	248	673	268,085
November	1,863	1,054	248	561	179,246
December	2,007	1,179	237	591	232,669
January, 1926.	2,059	1,216	257	586	178,963
February	1,695	989	197	509	197,958
March	1,891	1,156	211	525	214,488
April	2,311	1,468	224	619	317,173
May	2,082	1,250	179	653	256,114
June	2,188	1,365	178	645	231,473
July	3,068	1,919	287	862	358,646
August	2,368	1,507	206	655	361,165
September	2,480	1,602	217	661	318,787
October	2,916	1,914	264	738	449,081
November	2,405	1,473	279	653	430,847

UNITED STATES FIELD STATISTICS

Following are the completions showing producers, gas wells, failures, and initial production of crude, by states for the month of November, as compiled by The OIL WEEKLY:

California	86	70	4	12	57,274
Kansas	143	81	2	60	14,325
Kentucky	89	66	8	15	1,207
Michigan	21	18	..	3	360
Mountain States	51	31	1	13	22,810
New York	25	25	..	..	76
Ohio	248	107	76	65	2,661
Oklahoma	427	230	36	161	149,894
Pennsylvania	196	162	21	13	769
W. Virginia	134	34	82	18	600
Louisiana	82	38	9	35	5,548
Illinois	38	23	..	15	737
Indiana	13	7	1	5	351
Arkansas	57	40	5	12	2,069
Tennessee	..	..	..	..	....
Texas	795	535	34	226	172,166
Totals	2,405	1,473	279	653	430,847
October	2,916	1,914	264	738	449,081

the North Texas district, as several wildcat tests are in process of completion in this county with good prospects of making commercial wells.

The Cook Ranch field in Shackelford County has made a quick comeback on flush production due to the development of a southeast extension to the original field. The extension is largely held by small operators in small tracts and inside locations are being drilled along with offsets, while the original Cook field was almost controlled by Roeser-Pendleton, Inc., and the Marland Oil Company, with Humble and Amerada an 80-acre tract each.

The Lester-Fry district in western Brown County resgistered a number of large high gravity producers during November, and an extension made to the south indicates that this district is to be somewhat similar to the Cross Cut district in upper Brown County in that a series of small pools are found at regular intervals. The Blake field in upper Brown County also contributed a number of good sized wells during November. Eastland and Stephens counties failed to register any important completions during the past month, while the principal activity in Callahan County was around the original Mook-Texas Oil Company's discovery well west of Cross Plains in the Vigal survey.

West Texas

Substantial production increases were made in Crane and Upton counties in West Texas during November, while Pecos and Winkler were added to the oil producing list of counties in this part of the state through the completion of flowing wells on wildcat drilling blocks. Crane County added a number of new locations in the established producing areas in the Hurdle section, Gulf-Crier-McElroy field and the Church & Fields area. The Dixie Oil Company extended the flush area in Upton County nearly two miles to the southeast with an initial flow of 830 barrels of 29.1 gravity oil at 2025 feet.

R. A. Westbrook and associates brought in a 135-barrel 30 gravity flowing well in Winkler County at 2965-3005 feet, and later sold the well and a number of leases to the Standard Crude Oil Purchasing Company. The Pecos County wildcat was drilled by the Mid-Kansas Oil & Gas Company and the Transcontinental Oil Company in the eastern part of the county, and flowed 130 barrels of 29.6 gravity oil at 990-997 feet. This latter producer was mudded in to set casing with packer, since there was danger of caving on account of the open hole below the 12½-inch casing. The Chalk shallow field in southeastern Howard County added four new producers during November.

Other than a few "strippers" being drilled along the rim of the old producing areas, the East Central Texas district experienced an uneventful month, while wildcatting along the general fault line failed to develop any promises of forthcoming new fields. All the fields in this district are registering a slow decline in daily production.

Gulf Coast

The Texas Gulf Coast showed a production totaling 4,848,490 barrels during November. By far the greater part of this came from Spindletop, but extensive drilling was required to maintain the output. As an example of how much drilling is necessary to keep Spindletop from showing heavy declines for the last week in November, total initial production was close to 30,000 barrels, yet the total increase in the field was only about 12,000 barrels.

Other coastal fields are showing barely a normal amount of activity.

Wildcatting in the coastal country resulted in the discovery of a new dome on the line between Chambers and Liberty counties.

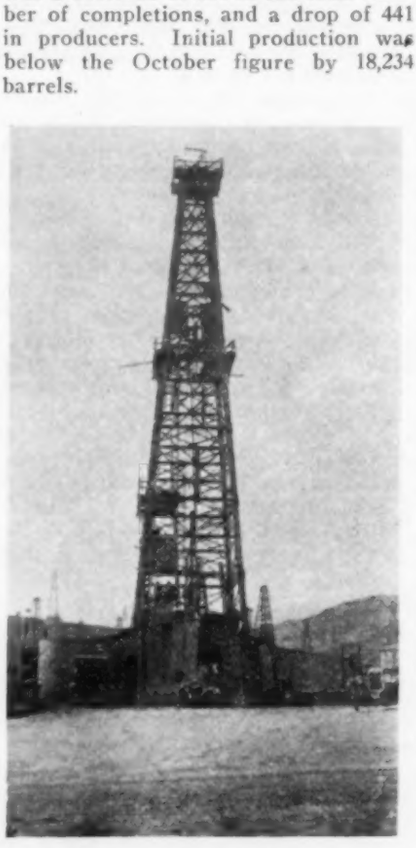
It is understood that a series of tests across southern Louisiana are to be started during December, in the hope of locating other domes.

Kansas gained 786,940 barrels production during the month, principally from Greenwood County.

Eastern States were also up approximately 33,400 barrels.

All other states showed decreases in their output.

Effects of cold weather and the weakened market are shown in the decrease in total field statistics. There was a decrease of 511 in the total number of completions, and a drop of 441 in producers. Initial production was below the October figure by 18,234 barrels.



Wagner No. 2 well in the McKittrick field that is showing good for 2000 barrels at 4900 feet.

Standardization to Occupy Most of Time at A. P. I. Meet

(Continued from page 55)

vice chairman of the Mid-Continent Section of the A. S. M. E. and president of the Standard Pipe Line Company of Louisiana, and F. N. Speller, presiding officer and chief metallurgical engineer of the National Tube Company.

Program on Corrosion

The following program will be presented:

Introductory Remarks—F. N. Speller.

Fundamental Theories for Corrosion—C. B. Callomon, metallurgical engineer, Allegheny Steel Company, Pittsburgh, Pa.

Corrosion of Tanks—L. G. E. Bignell, engineer, Parkersburg Rig and Reel Company, Tulsa.

Galvanic Action of Corrosion as Obtained from Laboratory Experiments—R. L. Ginter, chemist, Tulsa.

Corrosion of Pipe Lines—E. C. Kincaide, vice-president, Gulf Pipe Line Company.

Protecting and Reconditioning Pipe Lines—C. R. Weidner, chief engineer, The Prairie Pipe Line Company, Independence, Kansas.

Sub-Soil Corrosion and the First Report of the Bureau of Standards on Bituminous Coating Tests—Kirk H. Logan, research engineer, Bureau of Standards, Washington, D. C.

Corrosion of Refinery Equipment—H. F. Perkins, Gulf Refining Company, Port Arthur, Texas.

Discussions

General Discussions—F. N. Speller, National Tube Company, Pittsburgh.

Corrosion of Casing and Tubing—R. Van Mills, technologist, Bureau of Mines, Bartlesville, Oklahoma.

Corrosion in the Panhandle—E. O. Bennett, production engineer, Marland Oil Company of Texas.

Protective Coatings—E. A. Clark, Oklahoma Natural Gas Company, Tulsa.

Corrosion of Pipe Lines—E. R. McCarthy, Oklahoma Natural Gas Company, Tulsa.

Corrosion of Refining Equipment—Wayne P. Rice, Marland Refining Company.

Corrosion of Equipment in the Gulf States—O. N. Edgar, Detroit Graphite Company, Houston.

Protective Coatings—E. M. Converse, Dearborn Chemical Company, Chicago.

Reconditioning Pipe Lines—R. H. Hubbel, Hill Hubbel Company, San Francisco.

Discussing Geology referred to in Mr. L. G. E. Bignell's paper—E. G. Woodruff.

Pipe Line Corrosion—H. S. Christopher, Los Angeles.

Corrosion of Refining Equipment—R. L. Duff, Standard Development Company.

Definition of "Deep Hole" Being Changed Continuously

Improved machinery and methods make simple matter of depths previously thought impossible

By WALLACE DAVIS
Staff Representative

LESS than ten years ago the average operator could not see the dollar mark in oil produced from below 3000 feet. They were drilling at that time to around this depth, but 3500 feet was a venture, and below that horizon out of the question. Five years ago the possibility of producing from 4000 feet was looked upon with the same feeling. And so the history of crude production can be traced back to the beginning of the industry in lapses of five-year periods, each of which has brought it more out of its awkwardness and down to finer points.

Deeper drilling has resulted in the demand for more and better equipment, which, in keeping abreast of progress in the industry, has served its important part in making possible this progress. Equipment manufacturers have done more than supply the demand; they have in a measure led the way, offered ideas to the producer and then followed these ideas up with revised and newer equipment as was necessary in the progress of operations.

Contractors, as a general rule, would not take the responsibilities of a job below 3000 feet five years ago. Their ideas of deep drilling coincided well with those of the independent operator and even the major company. Today, as a result of better equipment and a better knowledge of drilling methods, they are assuming the risks of jobs below 5000 feet, using their own rigs, drill stem and crew. This example alone represents the gist of the average confidence in operations today, and gives a fair slant on the progress made in deep drilling during the period.

More Profitable Research

Companies are spending little if any more money on research today than five and ten years ago, when this expenditure is considered proportionately. More money is being put into research as far as the dollars and cents is concerned, but there is a more profitable return, dollar for dollar. The substance of the whole thing is seen in one difference—more intelligent expenditure of the money and wiser methods of research. Wildcatting today is carried on more scientifically, while development of proven areas shows a marked change. The "hit-and-miss" performance has been substituted by scientific development, while there has been seen a great progress in the practical side of development. Advancement in geological research and the coming of geophysical instruments for outlining subsurface structures have both served to eliminate much of the haphazard procedure of former years.

Deep drilling today is in an experimental stage as it no doubt will continue to be as long as crude is discovered at lower depths and drilling and recovery methods advance to the point of producing it. Its present stage, however, which shows such an evident mark of progress over previous years, comparatively speaking, is the point of interest now.

Results of Deeper Drilling

In discussing deep drilling with several superintendents of production for major companies, their opinions were sought on the question of profitable returns from present experiments. The common answer was "that profitable returns from continuous deeper drilling had worked itself out thus far, and would no doubt continue to do so as more advancement is made in the industry." Such a solution, however, was getting the problem nowhere as far as material facts are concerned.

There are, however, concrete examples of profit derived from deeper drilling in evidence today, and still other examples existing where profitable production can be secured with application of more advanced methods now in use in a minor way and being brought nearer to perfection.

In California oil coming from below 6000 feet is showing better returns than did much of the production from around 4000 feet a few years ago. In many cases in California, where deep drilling has been underway longer than in any other section of this country, wells are showing more profit from deep sands than from the shallow sands in the same fields.

One of the best examples of where deep drilling has shown great profits is Spindletop, where previous to deep sand discovery early this year more than 100 small pumpers were producing roughly 1200 barrels daily combined. Since the deep find was rapidly developed late in June the field has turned out approximately 10,500,0000 barrels. This production is coming from depths varying from 2600 to 5000 feet as compared with depths of from 700 to 1600 feet in the shallow cap rock sands. Drilling is now going on as deep as 5500 feet off the edge of the dome.

Another good example of profit in deep drilling in Texas is seen in Throckmorton County. Early discoveries in this county came in wells producing from around 3200 feet an average of 50 to 100 barrels on the pump. Recently a campaign of deep drilling has been under way in the proven shallow area, and wells deepened to 3800 to 4000 feet are flowing from 300 to 1800 barrels with all indications of being steady producers. An example of such returns from deep drilling is seen in Humble Oil & Refining Company's Stubblefield No. 1, which made an initial yield of slightly more than 100 barrels from approximately 3200 feet, and made a 50-barrel pumper after the flow ceased. The well was deepened to 3927 feet last August, and has been flowing roughly 660 barrels since.

In North Louisiana

Cotton Valley field in Louisiana is showing much stronger production from between 4200 and 4300 feet than it originally made from a 2700 foot horizon. Average Cotton Valley wells in the early days of the field made from 50 to 400 barrels of 28 gravity oil with around 5,000,000 cubic feet of gas. Below 4200 feet the field is now producing gas wells from 3,000,000 to 10,000,000 cubic feet that is yileding from 250 to 500 barrels of natural gasoline daily.

The Gulf Coastal region of Texas and Louisiana has been the scene of more deep drilling within the past 18 months than any other section of the country outside of California and, in a few cases, the gas territory of West Virginia. In July, 1925, Rycade Oil Corporation broke the Coastal depth record with its State B-1 at Orange, abandoned at 5867 feet. Vacuum Oil Company several months later broke this record by drilling its Phoenix B-1 at Lockport to 6027 feet. Two weeks ago Vacuum broke its own record with a depth of 6420 feet in its Lock-Moore No. 4 at Lockport. Neither of these wells produced. Until 1926 the deepest Coastal production was coming from around 4800 feet at Orange. In September Vacuum completed its Freiberg & Wolfe at Lockport for 500 barrels of 24 gravity crude and 5,000,000 feet of gas from 5476 feet. Following this record by a few weeks Pure Oil Company struck a 150 barrel well with 10,000,000 feet of gas in its Sweet Lake No. 3 wildcat at Sweet Lake, Louisiana, at a total depth of 5897 feet. The United North & South Development Company has recently broken Texas' deep hole

record, having attained a depth of 6494 feet in its Kelley No. 1 at Luling, and still drilling.

Price Holds Back

In the opinion of many production superintendents deep drilling will not get into full sway nor will it be highly profitable as long as shallow sands continue to pay off as at present. To this they attribute two chief reasons: First, the search for deep pay would not be justified as long as shallow sands supply the demand and thereby mould crude prices to fit the cost of recovery from these shallow depths. In the second place operators are not prone to pass up any productive sand in search for deep pay, and thus the cost of deep drilling is greatly enhanced by continuous coring and testing of probable pay sands at higher levels, although deep pay may be proven in this particular area. Lockport field can well be given as an examuple of this, it having eight distinct producing levels ranging from 3700 to 5476 feet.

Drilling costs in the future on wells going deeper than the horizons reached today might reasonably be compared with the wells of the average present depth in the same ratio with which costs of wells today are compared with those of ten years ago when 3000 feet was considered a deep hole. The 4000 foot well of today is drilled with no more actual costs than the 3000 foot well of a decade back when the return is considered proportionately, the difference lying in time saved today by the use of better equipment and methods and in more scientific methods of research and development. With this fact it might be reasonable to assume that equally as much progress will be made within the next ten year period.

The Question of Cost

Ten years ago when a well was started a cost estimate was nothing short of a wild guess. Today the average well in proven territory can be closely estimated with the exception of trouble not scheduled, as a fishing job. The operator today can figure a 3000 foot two string well in a proven field of the average territory to cost around $15,000 or the same well, setting three strings, at slightly less than $20,000, barring any fishing jobs. The 4000 foot well with present day methods and equipment is costing, excepting drilling trouble, around $36,000, making the last 1000 feet run to practically as high a figure as the first 3000 feet.

But when drilling trouble sets in the estimate goes in the waste basket, for although everything in the way of material, labor, fuel and miscellaneous items have been closely accounted for the calculation has no meaning of value. Thus it is not until the day when drilling methods have been brought to a fine point and equipment improved to the point where even the trouble can be somewhat accurately accounted for that well costs can be estimated to the point of having much bearing on the outcome of the job.

Drilling Restrictions Removed At Seminole City

By ROYE MUNSELL
Staff Representative

Tulsa—After a session lasting less than an hour Monday, the Seminole field shut-down committee unanimously agreed to remove all restriction on the field. The thirty odd wells now shut down on top of the sand will be permitted to drill in and be completed.

Although the restrictions imposed on the field were in a nominal sense removed, it was decided not to disband the committee. It will continue and Ray Collins, the "umpire", will remain in the field for a time as an official observer.

No wastage of oil will be permitted, it is declared. If new wells increase production to the point that pipe line and storage facilities cannot take care of it, quick action will be taken to guard against any wastage.

The operators state that they are capable of taking care individually of their own output, both present and potential, by pipe lines and storage already built or under construction. The pipe line capacity of the field is now about 110,000 barrels. By December 10, it will have reached 130,000 according to present plans.

Proration or runs and the pinching in of producing wells has not been practiced in the field for several days, as a result of the modification of the agreement which was made a week ago. For this reason an immediate flood of production from the field will not come as a result of the decision of today's meeting.

What the peak of the production from the field will be is still a matter of speculation. The older producers are holding up in a very poor fashion and each week sees more wells added to the list of those that have gone dead. It is reasonable to expect that the peak will be somewhere near the figure which will be set when the thirty wells now shut down on the top of the sand are drilled in.

Making 106,783 Barrels.

The latest 24-hour gauge shows that the Seminole City pool produced 106,783 barrels of oil from 70 wells, 38 of the number are Wilcox wells and they produced 95,783 barrels. There has been a slight decrease in production within the last few days, which is due to the decrease in gas pressure of the different wells. The latest well to go dead is the Independent-Inter Ocean number 1 Jones, in the northwest of the southwest of the southeast of 26-9-6. It went dead during the later part of last week after having flowed approximately 2600 barrels the previous 24-hour period.

There has been 41 wells drilled to the Wilcox sand and four of these found water and three were plugged to the Hunton Lime and one was plugged back to abandoned.

Earlsboro

The Earlsboro field held the limelight during the past week due to the fact that the Gypsy No. 1 school land, in 16-9-5 increased its production from 2550 barrels a day to nearly 6000 after it had been deepened approximately three feet in the sand. This well is now 12 feet in the Wilcox sand and at a total depth of 4281 feet. The production of this well has caused much activity in this area. There are nine wells drilling, 10 rigs up and approximately 20 locations in this area.

The Seminole field has been extended to the south since the Indian Territory Illuminating Oil Company has brought in a well in 15-8-6. This well produced 400 barrels from the Hunton lime and now the test is going on to the Wilcox sand and is at a depth of 3890 feet.

The Superior Oil Company has a hole full of oil in their well in 10-9-6 and it is believed that the oil is from the Cromwell sand. The well is at a depth of 3640 feet and casing is being layed preparatory to testing the sand Other wells in this locality found only a show of oil in this sand but production from this formation is obtained from wells 16 miles northeast.

Drilling near the center of section 36-9-6 has found the formations running high and it is thought that the pool will be extended to this section. There are approximately 30 wells drilling in the Searight pool in 10-6 area. At present there are two Wilcox producers in this area both of which are holding up in production and together are making about 9000 barrels of oil.

Storage Method Speeds Operations And Stops Deterioration

Richfield Oil Company's orderly handling of material serves two ends and increases efficiency of organization

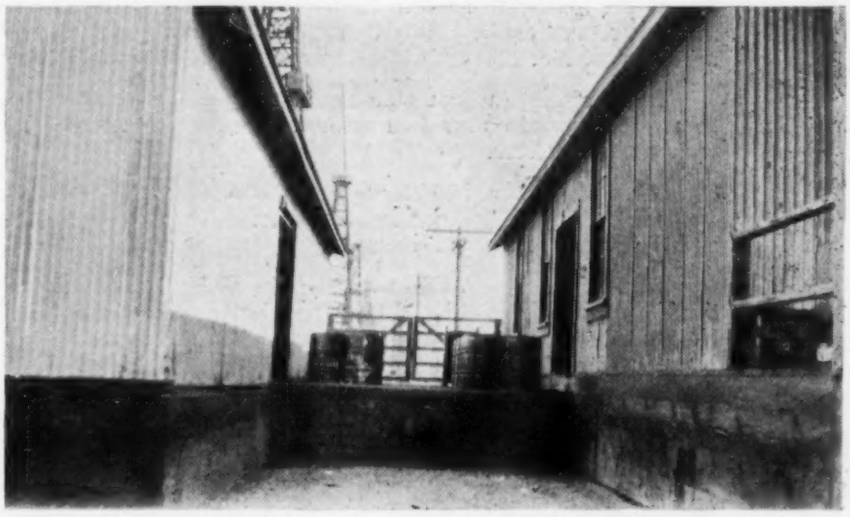
By GEORGE REID
Staff Representative

A PERPETUAL inventory, cross index and constantly checked; neatness with accessability of items; constant care in storing materials, guarding against loss due to such causes as rust and deterioration; and prompt, courteous service in the distribution of materials, are among the important features and factors contributing to the efficient handling of storehouse materials at very low cost, with the department of warehouses of the Richfield Oil Company organization.

The central storehouse for the Southern district, located at Signal Hill, as shown in the accompanying illustration, Fig. 1, is economically constructed of corrugated sheet iron and wood, which policy of construction has been followed throughout all of the Richfield company's Western warehouse buildings. One of the important reasons for the adoption of such material lies in the fact that such buildings may be easily dismantled and moved to new centers of activity if necessary, the first cost is not excessive, the salvage value is high and the buildings may be speedily constructed. Although the heating problem is not of great importance in California the buildings are all equipped with gas heaters for the comfort of employes. As is shown in Fig. 2—the storehouse is divided into two sections and so arranged that the truck loading platform lies between the two buildings, thus facilitating loading of material handily from either section of the storehouse.

The larger of the two buildings connected by the ramp or loading platform with the smaller house, is employed for the storage of the great number of small items usually found in storekeeping work. A portion of this larger building is given up to the office of the storekeeper, and the bookkeeper. The hundreds of small items stored in the warehouse section of the building are stored separately in various sizes of wooden bins.

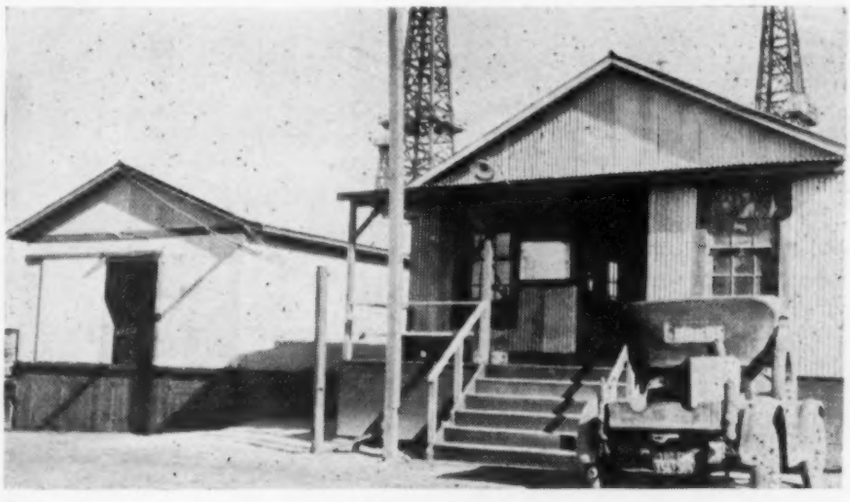
Figure No. 3, an interior view of the well arranged bin construction shows the manner in which many of the small items are handled. It is noticed that the storing method of nipples is most in evidence in the photo. This material forms one of the groups into which all materials are segregated.



Illustrating how the use of two buildings lends itself to truck loading from either section of warehouse. Loading platform between and connecting the two buildings

Nipples, for example, are handled in this store ranging in size from four-inch down to quarter-inch. The complete stock of any one particular size or style of nipple is evident at a glance. Each bin is numbered and therefore all material in any particular bin is carried on the storekeeper's books both as such size nipple, for example, having a certain number. The inventory of material is kept by the bookkeeper instead of employing that system which requires the perpetual inventory on both the storehouse books and upon individual cards placed on each bin. Each withdrawal from stock of any item is numbered, the name of the item given, and the bin number, which is really the stock number. The slips carrying this information pass directly into the bookkeeper, where the withdrawal is recorded, subtracted from stock, and the inventory maintained. To check the bookkeeping or accounting of materials the storehouse crew runs through the stock on hand in the warehouses checking this against the book record. This is done about three times monthly, and due to the method of stocking all items where they are

(Continued on page 72)



Richfield Oil Co.'s general storehouse at Signal Hill, showing economical type of construction and lay-out of buildings

The President of the A. P. I.

MOST industrial progress has been brought about by men who have recognized that they owe a part of their time to the general welfare of the industry with which they are associated. That such men usually are outstandingly successful in the conduct of their personal business affairs and the building of private fortunes is but evidence that the most fit are selected by their fellows as leaders. It is typical, too, that the larger and more time exacting the private affairs of the individual the more he can be counted upon to work for the general welfare.

Such a man is W. S. Farish, who at 45 is president of the American Petroleum Institute and of the Humble Oil & Refining Company.

Mr. Farish is a pioneer Texas oil man and also a pioneer in association work as it affects the business in which he has spent his entire business life. He came to Beaumont in 1901, soon after he had completed his schooling as a lawyer and discovered after a three-months trial that other fields were more promising to him.

His first year in Beaumont was in the employ of the Texas Oilfield Limited. He then became associated on his own account with the Brown-Farish Oil Company which operated with limited success.

Mr. Farish moved to Houston in the summer of 1905. For a number of years he did contract drilling and owned some production in partnership with R. L. Blaffer, E. F. Sims and the Gulf and Texas companies.

In 1915 he became president of the Gulf Coast Producers Association and in 1917 of the Texas-Louisiana Oil and Gas Association. It was in his capacity as president of the Gulf Coast Producers Association that he was called to Washington as a member of the National Petroleum War Service Committee, which committee has been perpetuated in the American Petroleum Institute of which he was an original director, a position which he held until elected president at the annual meeting in Los Angeles in January, 1926. Thus for more than 10 years Mr. Farish has taken an active leading part in the advisory councils of the oil industry, and has found time for it although his personal affairs have been exacting as he attained material advancement in the business world.

In 1917 Mr. Farish became first vice-president of the Humble Oil & Refining Company through the merger of the Blaffer & Farish properties into the expanded company, and it was Mr. Farish who, in 1919, conducted the negotiations with officials of the Standard Oil Company of New Jersey through which the New York capital became interested to the extent of 50 per cent in the Humble Oil & Refining Company. Mr. Farish became president of the company in October, 1922, which position he now holds.

In addition, Mr. Farish finds time to be a good citizen of a progressive community and takes a fitting part in civic, social and religious affairs of Houston. He is a member of the Houston Club, Houston Country Club and a director of the Houston Community Chest. He is an Episcopalian and belongs to no fraternities or similar associations, secret or otherwise.

William Stamps Farish was born in Mayersville, Mississippi, on February 23, 1881. His father was William Stamps Farish and his mother was Kate Maud Power. He is of mixed Anglo-Saxon and Celtic ancestry, a stock which has produced some of the finest business and professional men of America. His father's family was among the early settlers of Albermarle County, Virginia, and his mother's father was a native of Ireland, the two families representing an admixture of Welsh, English and Irish.

Mr. Farish's education was received at St. Thomas Hall, a preparatory school at Holly Springs, Mississippi, from which he graduated in 1897, and at the University of Mississippi, at Oxford, from which he received the degree of Bachelor of Law in 1900.

He was married on June 1, 1911, to Miss Libbie Randon Rice at Houston. Mr. and Mrs. Farish and their two children, William Stamps Farish, Jr., and Martha Botts Farish, live at Houston.

W. S. FARISH AT HIS DESK

Midwest Handles All Material From Central Warehouse

Perpetual inventory is kept and all small items are carefully accounted for until final disposition

By *BRAD MILLS*

THE handling of equipment has long been the bane of many oil and gas companies. When we stop and consider the necessary details involved in receiving, handling and transferring equipment and supplies, we can readily see why the annual or semi-annual reconciliation of accounts through the medium of a physical inventory often drives the accounting department to despair.

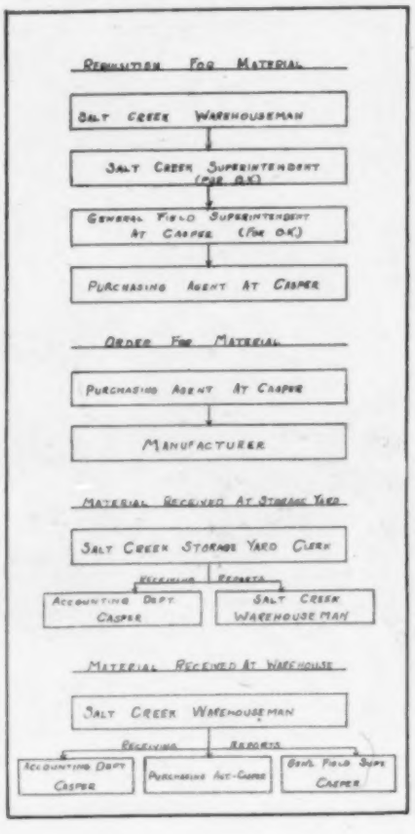
The oil or gas company that has not yet stopped to work out a solution for its continual loss and mixup of equipment should do so at once for its own good. Of course, there will never be a perfect system devised or a set of perfect men to work it, but the time for some good system is at hand. Various reports need to be made, depreciation must be taken, broken and worn-out tools should be written off the books, and on top of these facts, the company should know at all times the status of its equipment.

One of the chief troubles in the past, and one may fancy it will bother in the future, is the lack of co-operation among the men who are hired primarily not to look after equipment, but for some other specific job. Many small oil companies depend upon drillers or truck drivers to make the proper transfers after it once leaves the warehouse. These men are hired to drill and drive trucks and naturally feel that they should not be annoyed with tallying the amount of casing going from one lease to another or checking the amount that goes into a well. It is only a natural condition and one difficult to remedy.

The larger companies can afford to keep field men who carefully look after the transferring of equipment, even after it has left the main warehouse. Each lease and well should be charged and credited with all material going to and from the location. Each well or farm should be charged with the breakage or damage. In this way the exact cost of each specific operation may be determined. These facts are very useful for the company that is busily developing leases or the one that contemplates purchasing additional acreage. Past records tell accurately the cost of future operations. The actual worth of a lease is far below the value of the recoverable oil. The cost of development must be studied carefully. Carefully kept warehouse and field records are used by all executives in negotiating for the purchase of additional leases.

The Midwest Refining Company, principal Rocky Mountain subsidiary of the Standard Oil Company of Indiana and by far the largest producing company in the region, operates one of the largest field warehouses and storage yards in the country. Years have been spent in working out details for the receiving and handling of equipment and supplies. Hundreds of steel rigs, hundreds of thousands of feet of casing and pipe, besides equipment and supplies of every sort have been handled through the company's warehouse.

The greater number of orders for material and equipment originate at the Salt Creek warehouse. A perpetual inventory is kept on stock cards at the warehouse. When the warehouseman is aware that the stock is running low, he issues a requisition and forwards it to the Salt Creek superintendent. The latter approves the requisition and passes it on to the general field superintendent at Casper for final approval.



The Casper superintendent approves the requisition and passes it on to the purchasing agent at Casper. The latter purchases the item on the open market at the best figure obtainable.

The equipment is shipped directly to the Salt Creek storage yard, via the short railroad which terminates at Midwest. The storage yard clerks check the equipment in and make two receiving reports. One goes to the Salt Creek warehouseman, while the other is passed on to the accounting department at Casper.

The records made of the material received at the main Salt Creek warehouse are more extensive than those made at the storage yard. From the storage yard the equipment goes to the main warehouse, where three reports of material received are made. One copy is sent to the accounting department at Casper, one is sent to the general superintendent at Casper, while the third is sent to the purchasing agent at Casper.

It will readily be seen that all departments are aware of the receipt of materials while the Salt Creek warehouse and storage yards have a check on one another. The accounting department at Casper has a check on both the warehouse and storage yard. The general superintendent at Casper and the purchasing agent are aware of the purchase and receipt of materials and are thus enabled to check all tardy deliveries. The purchasing agent has proof that the material has been received when he authorizes payment.

The Salt Creek warehouse is the hub of all operations. It is being checked against by four distinct departments. The warehouse itself is one complete unit. When the goods leave the warehouse, they are checked out against the particular operation to which they apply. The stock clerks take all materials from the stock cards. A perpetual inventory is maintained.

All small items, often classed as "expense" by some companies, are received in the regular way. Contrary to the usual direct charges sometimes made, these items run the gauntlet with the more expensive equipment. Some companies charge the small item direct to the operation as expense. The warehouse is not used as a clearing house. Not so with the Midwest interests. They keep a complete record

Describes Process of Cementing Under Pressure

Important that all mud be removed from the hole before cementing is introduced, to get good shut-off

I. LUPASCU, Petroleum Zeitschrift, 1926, 595-99

ONE of the most important problems that arises in the drilling and maintenance of oil and gas wells is to prevent water from entering the well. It is not necessary to spend any time here in describing the various methods that are employed for keeping water out of wells, for they are well known to oil field technologists as well as to geologists. The author must, however, mention briefly the fact that in recent times water has been kept out of the oil and the gas well by closing up the lower end of the casing. The closing of the casing at its lower end is accomplished either by forcing this end into a narrow hole or else by cementing the lower opening, or finally by using various devices which are inserted between the lower end of the casing and the oil sand.

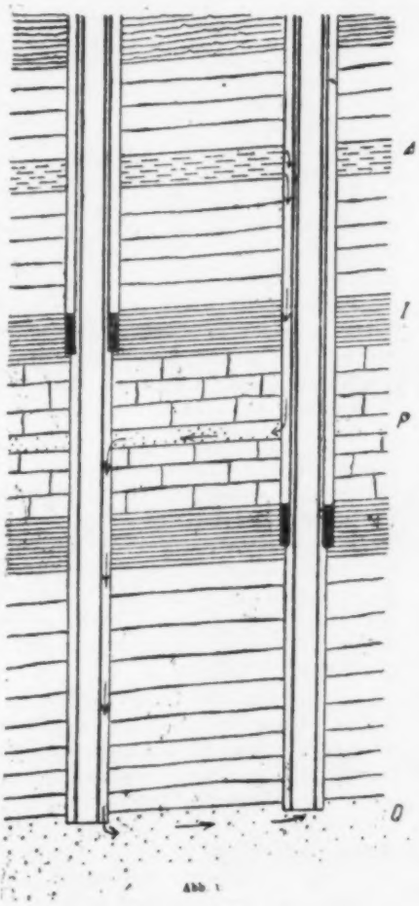
These methods, even when the work has been carried out with great care and under expert supervision have not yielded the results that were hoped for them. In the first place the lasting qualities of the closure has often been unsatisfactory. The casing has often been injured in one way or another by gushing of oil and gas, by friction of the oil well pump along the sides or by the rods that hold the pump. There is every possibility for the water to find new paths wherein to enter the well. But even when the closing of the well against the entrance of water by these methods is satisfactory as far as permanency is concerned, these methods however, from their very nature, can prevent the penetration of water into the well, only when this practice is followed out in all wells in the same region and in the same impenetrable stratum.

When, for example, (see figure 1) the water is shut out in two wells in the same section but in two different impenetratable strata I and I', between which there is a connected penetrable stratum P, then the water from the water stratum A will find another way of entering the well, as is shown by the arrow in the figure, although it is prevcented from entering the well in each of the two impervious areas. The oil and gas sand at the bottom of the well will thus become contaminated with water.

For this reason the practice has been recently adopted of cementing greater sections of the lower end of the casing or else of cementing the entire length of the casing. This is done by pumping the cement in behind the casing or pressing it in, until the required level is reached or until the cement reaches the level of the ground.

Cementing Entire Depth.

This method of cementing the well, particularly when the entire casing is cemented—the methods of doing this are too well known to require description here—is used to isolate the water in its strata, in which it is held, by preventing its circulation outside of the casing. On the other hand the well or the casing is strengthened, for the latter is stiffened, so that the casing is well protected against all sorts of accidents which may injure it and which are liable to affect it in the space between the casing and the sides of the well.



Cementing the casing or the well over relatively great depths or even throughout its entire depth has generally given very good results, and this is particularly true in the American oil fields. This system has also been used in the Roumanian oil fields. Thus two movable packing rings have been used for this purpose and also an arrangement consisting of a packing ring fastened to the bottom of the casing, under which the cement is pumped.

Unfortunately this cementing under pressure or high pressure, as it is variousiy known, has not always given good results, and this applies particularly to situations that exist in Roumania and in other oil fields as well where the prevention of the penetration of water into the well is very difficult.

The causes which are responsible for this procedure not always producing the desired results can be reduced to such that prevent the setting and hardening of the cement.

In the first place there is the slime which coats the walls of the well and which consists of aluminous substances or oil. It is a fact that the washing down of the walls of the well with water, as is now commonly carried out,—this water being circulated between the casing and the walls of the well,—is not sufficiently strong to remove all the slime from these walls. We shall see why this is so later in this article.

In the second place there is a flow of gas through the well which has the effect of keeping the cement in constant motion and thus hinders its setting. These difficulties can be counteracted and the well can be cemented with ease and efficiently when the method which the author has devised and has patented in Roumanian Patents Nos. 11,072 and 11,097 is employed.

Cement Under Pressure

This process allows the cement to

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of every screw and bolt until it reaches its final charge.

The warehouse is as neat as any grocery store. It is arranged with the most used materials in the most accessible places. The casing yards are well kept and each pile of casing is labeled to prevent sending the wrong size to the various leases.

The old haphazard way of handling equipment is doomed. Better warehouse methods have come to stay. The company that is not keeping trace of its equipment is cheating itself. The cost of untangling the annual mixup through inventory is alone as expensive as maintaining an up-to-date system.

be pressed down while being used, which means in other words that the cement mortor or the cement milk can be preessed between the casing and the walls of the well under as high a pressure as may be desired. This is not possible with the methods in common use.

The author understands as superpressure, a pressure which is greater than that which results in the mere pumping of the cement into the well and which has the effect of causing the cement to penetrate behind the casing and eventually come to the top of the well, even when this pressure reaches relatively high values at times due to impediments that are encountered by the flow of cement to the surface.

The reader is referred to figure 2. The casing of the well is indicated at T and the cementing of the well takes place behind this casing and between it and the sides of the well. A section of larger diameter than the well, shown at T, is fixed in the ground during the drilling of the well. The walls of the well are shown at P. The cementing apparatus used for cementing the well is also shown in this illustration. It consists of a pipe C through which the cement flows into the well and this pipe is made of the common piping that is employed for cementing purposes. The pipe is let down into the well right down to the lower end of the casing T. There it passes through the closure of the well shown at F and the connection between the pipe and closure F is well packed. The upper end of the pipe is also well packed as it passes through the upper plate closing the well at the top, seen at D which is a part of the casing T. The upper end of the tube C can be connected either with the high pressure pump or with a pump operating at lower pressures but having a large capacity.

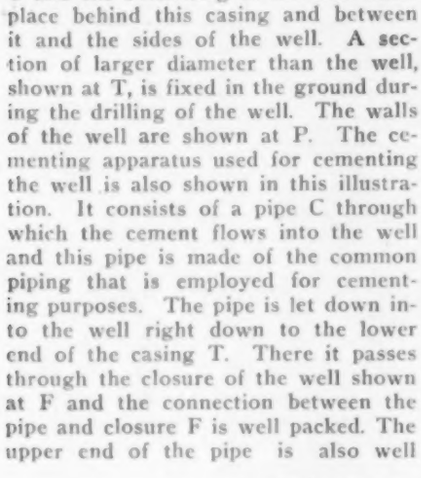


Abb. 2

This pump, and one is generally sufficient for the purpose, pumps the cement mortar into the well. The ring-shaped area between T and t is likewise well closed by means of a packing ring d, which is provided with one or more openings for pipes, shown at c for example, and also provided with the valves r. These tubes can likewise be connected with a pump which operates at high pressure. If the difference in the diameter of the sections T and 4 is too small, then the pipe c can be connected to the side of the large casting t. This is seen in figure 2a.

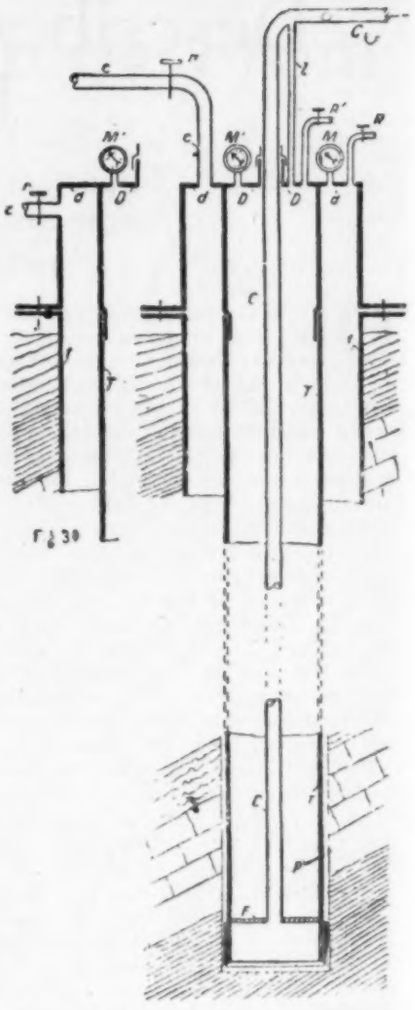
The pipe C can be provided with a foot valve at its lower end. Furthermore the packing rings D and d can be provided with manometers M and M' and small testing pipes controlled by valves R and R'.

Method of Procedure

In order to explain the operation of this arrangement, it will be assumed that the well is full of water at the start of the operation, and this is quite often the case in actual practice. The first step is then to introduce the pipe C into the well, as is shown in figure 2, and then the packing ring is placed on the opening of the well, shown at D and pure water is then pumped through the pipe C. This water will leave the pipe C under the packing ring F and the foot of the casing T and will penetrate between the external walls of the casing T and the sides of the well p, and in the upper portion of the well the water will lie between the exterior of the casing t and the sides of the well. The water will also come into the annular space which is included between the casing T and the larger casing t and will finally reach the surface of the well. During its passage through the well the water will wash down the sides of the casing and of the well itself.

The water is pumped through the well until it comes out clean, which is an indication that the walls have been washed sufficiently. Then the closure d with the tubes c is placed on the larger casing. The valve r on the tube c is slowly closed and then the pumping of clean water through the well is continued as heretofore.

Inasmuch as the resistance which the water encounters in its circulation through the well becomes increasingly greater, the pressure supplied by the pump must increase likewise. This results in the pressure exerted by the water against the walls of the well, shown at p, likewise increasing. This pressure can be increased to any desirable point by gradual closing of the cock r.



Wells Washed Clean

The result of the increase in the water pressure is that the water penetrates deeply into all hollow spaces, cracks or pores of the stone that forms the walls of the well, and washes them down very thoroughly. The high pressure causes all the slimy matter that adheres so tenaciously to the walls to be washed away with the water. Furthermore it may also be held that within a certain distance from the sides of the well all the hollow spaces, cracks and pores of the stone will be thoroughly washed within a certain definite period of subjection to this high pressure water. After it is felt that the washing has proceeded for the proper length of time, the flow of water is stopped and cement mortar is then pumped through the tube C.

Now the cement displaces the water which retreats before it. The cement mortar itself fills all the hollow spaces, cracks and pores of the stone that forms the sides of the well. Furthermore it also washes the surfaces which it comes in contact with and removes any particles of slimy matter that could not be carried away by the water. Finally the cement mortar reaches the surface of the well in the pipe c. Then

a certain amount of cement is allowed to flow out of the well, for this cement may still be contaminated with slimy matter, and thereafter the cocks are closed, gradually but finally completely. As the pressure increases, it is transmitted throughout the body of cement in the well, which gradually ceases to circulate and finally comes to a standstill.

If the increase in the pressure does not take place in the desired manner by complete closure of the cocks, then the pipe c is connected with a pump of high pressure and the cement mortar is pumped further through the pipe C as well as the pipe c. This is continued until the proper pressure is attained or until it is concluded that the cement mortar has penetrated deeply the sides of the well.

In order to prevent the cement from setting in the pump cylinder and other parts as well as in the tubes C, and c, a certain quantity of clay mud or other similarly suitable substance is pumped into the well at this point. The quantity of clay or other substance that is added must be very carefully measured out beforehand and depends on the character of the cement employed. The cementing of the well is then finished, and it is only necessary to wait until the cement has been properly set and hardened, which ends the penetration of water into the well, before continuing to drill further.

Strengthens Casing

It should however still be mentioned that neither the casing of the well T nor the cementing pipe C must be particularly resistant, irrespective of the pressure that is employed during the cementing of the well and this applies as well to the case when the pressure reaches the height of several atmospheres. These tubes and casings are subjected to the same pressure both inwardly and outwardly and after cementing are so well fastened to the walls of the well that there is no danger that the casing T can be crumpled or injured in any manner.

This leads to the conclusion that the tubes and the casing that are employed in wells that are cemented by this method can be made of the lightest possible metallic construction.

For the same reason the ring shaped closure or cover F can be made of very thin metal, for the tube 1, that units C with T, is subjected to the same pressure under and over F. Figure 26 shows a construction of the pipe 1 or 1′, which has for its purpose the absolute prevention of the penetration of the cement mortar into the interior of the casing T.

It should further be mentioned that besides very thoroughly strengthening the sides of the well, the shutting out of the water is accomplished in certain definite levels and not below these levels. In other words the water is confined in the strata where it occurs. Furthermore, these strata surrounding the walls of the well are filled with cement for quite an appreciable distance from the well itself. The pressures that are required for this process are so low, comparatively speaking, that they can be obtained without the slightest technical difficulty.

It is claimed that this result cannot be obtained by the best cementing methods that have been used up to the present time. The best that has been obtained is to have the cement penetrate into the space between the well and the casing and finally reach the surface of the well. Thus the cement does not penetrate into the pores of the stone sides of the well. For the maximum pressure of the cement at any point in the well walls is equal only to that pressure which corresponds to the difference in the level at that point and the surface level, or the density of the cement. Then again, this pressure is the same as that to which the point or location in question has been subjected to in the course of the drilling of the well, as for example, when the well becomes filled with a liquid which possessed almost the same density as that of cement mortar. From this fact it may be concluded that the cement cannot penetrate into the cracks and pores of the strata, and these places cannot be washed out properly and thus form contact surfaces to which the cement can stick firmly. In the case of the new process all these conditions are entirely different.

It is easy to understand that in using this process the flowing of gas, which prevents the setting of the cement, can be eliminated by incresaing the pressure to such a point that it becomes greater than that of the gas. This can be accomplished with very little technical difficulty. This fact is of special importance in working with gas wells, for in these cases, due to the constant flow of gas from the well, it is often impossible to prevent the continuous seeping of water into the well and to strengthen the sides of the well.

Figures 3 and 3a show another method of constructing the head of the cementing device for use in wells, in which case the head consists of one piece only. The head cannot in this case be manipulated with the casing T during or directly after the cementing, which is true with the method shown in Figure 2. It is understandable that the use of this cementing process requires that the testing of the well to see that water is not leaking into it is carried out in such a manner that the well is completely drained out, without there being any fear that the pipe will suffer thereby, for the pressure, exerted outwardly by the water must not be directly borne any longer by the atmospheres.

As far as actual use of the system is concerned, it may be said in closing that it has been successfully employed with pressures as high as 20 to 80 atpheres.

Practical Standardization

(*Continued from page* 57)

jects makes it possible for attendants at the sessions to get information upon the subject in which he is interested without wasting his time listening to discussions of problems of a branch of the industry entirely foreign to his daily work.

It should be noted that standardization does not confine itself to tools. It also includes methods, and a session of a group becomes a clearing house through which all participants derive valuable information upon the problems with which they are concerned in their daily work.

In addition, the association of the men of the Industry is serving to bring them together through personal understanding in such manner that the isolation which has characterized this business in other years is being removed. It has taught the Industry that much common good can be had through neighborliness and that such neighborliness does not constitute any infraction of laws which have in other years been so directed against the Industry as to make even the appearance of friendliness dargerous.

It is working toward a better understanding of the Industry by the public because it is making it possible for the Industry to know itself.

Interior view of storehouse showing arrangement of supplies and stocks carried in perpetual inventory.

Storage Method Speeds Operation and Stops Deterioration

(Continued from page 65)

visible, the checking procedure requires but two or three hours.

All of the hundreds of items carried in stock are classified into certain groups, and these groups are binned separately. For example, in the group of nipples, as shown in the illustration, nothing but nipples are stored in this series of bins. Another group consists of tires, tubes, and automobile accessories. A third consists of all sizes of machine bolts. Washers, nails, tools, valves and valve parts, etc., form separate groups of materials. Pipe fittings, ranging from quarter-inch to four-inch are grouped together. All steam engine parts from another section, also all gas engine parts are grouped together. Electrical equipment, hose, cables, pump parts, and all of the usual material concurrent to the production of petroleum are found neatly arranged in distinct groupings which lend to ease of distribution. Such arrangement of items tending to facilitate the movement of equipment in and out of the storehouse smoothly, carefully handled and checked, contributes much toward reducing the cost of handling materials.

The perpetual inventory is necessary to the storing of the volume of materials and is actually needed in the work of operating and production for such close checking of stocks prevents the accumulation of slow moving materials, thus reducing the investment in warehoused materials, and also eliminates the possibility of holding up work through the absence or lack of essential items.

Valuable Items Locked Up

Such items as hand tools, and expensive brass fittings for boilers, lubricators, etc., are grouped together and stored in bins under lock and key.

The usual practice of hauling a bale of waste and wiping rags to the scene of a certain job where this material is distributed freely and carelessly by all and sundry has been eliminated entirely. Both rags and waste are taken from the bale and tied in small bundles of five pounds each and these five-pound packages are distributed over the warehouse counter.

The store keeping department makes every effort to keep the stock in neat arrangement and in uniform display. Their job is considered by themselves much the same as the mercantile store manager considers his work. This policy of the department which informs the storekeeper that he is in reality a storeman tends to create within the employe a certain pride in his stock, its appearance, and the dependability of his service. The heads of this department insist that the storekeeper and his assistants deal in friendliness and with courtesy with all those who come to buy at their store. This is an important item in the development of the right morale, or co-operative spirit, which must prevail throughout the entire organization if the work of that organization is to function smoothly and properly.

Storing Small Pipe

Note that in Fig. 1 the space under the floor of the small storehouse at the left of the illustration is entirely enclosed and provided with doors at the front. Here, under lock, is stored the various sizes of small pipe in joint lengths. The writer has found that small pipe usually presents somewhat of a storing problem. The practice of storing it under the house is not a bad idea, for it removes this cumbersome material from the storehouse floor and its removal gives space for many items in the warehouse proper.

The various sizes of rope as received in large rolls are also stored under this floor. A hole bored in the warehouse floor provides for the removal of rope required, for the rolls of rope are placed in such a manner that the end extending through the floor can be easily pulled through and the required amount measured off and cut. Another reason for storing rope in the cool darkness under the storehouse floor lies in the fact that rope is subject to dry rot and cool, dark storage offsets this danger. Along these lines it may be menitoned that the life of rope can be lengthened by occasional wetting down with water and such a practice is prevalent with many mines and oil companies.

The second, or smaller, building is the storehouse for larger or heavy fittings, etc. Rotary chain, belts and lagging, foamite materials, bales of rags and waste and numerous other articles are stored in this house. Rotary hose is stored here, lying in hooks suspended from the rafters which hold it perfectly straight instead of coiled and lying about on the floor.

Another interesting feature regarding the development of efficient warehousing with the Richfield company is its policy of designing and constructing the storehouse immediately, wherever a new venture into field operations warrants the maintenance of a store. With the early construction of the storehouse, the company then has all of the material on the ground early, usually before any of the actual work on the job begins. Past experience has shown just about what materials will be needed and these needs are anticipated as much as possible. This policy of providing warehouse facilities early in the venture is an important factor contributing to very low cost of material handling. One store may draw on the stocks of another store when necessary, but the practice of providing the necessary working material on the job, and before the job reaches the state where the lack of material on hand is a costly proposition is indeed commendable.

Show of Oil and Gas in Navarro County Test

Corsicana, Texas.—More than passing interest was centered early this week on The Texas Company's wildcat on the Byron Cheney farm, J. White survey, located on a line between the Corsicana-Powell and Richland fields in Navarro County. This test cored sandy-shale at 2979-82 feet with some evidence of oil and slight showings of gas after having logged the Austin chalk formation at 2426-2825 feet, with a surface elevation of 322 feet. A string of 6⅝-inch casing has been cemented to make a thorough test of the sandy-lime pay.

Regardless of the outcome of this test, others will be drilled in the general area on the strength of the showings obtained. The territory between the Corsicana-Powell and Richland fields is considered the most likely producing area along the Mexia fault proper, and has not been fully explored. The acreage is largely held in small blocks by major companies, and all are playing a waiting game to try and acquire more acreage before drilling.

Record Depth Tests Efficiency Of Drilling Tools

Equipment manufacturers co-operate with engineering skill in sinking California well below 8000 feet

By GEORGE REID
Staff Representative

THE Chanslor - Canfield - Midway Oil Company has so far accomplished the setting of numerous world records in drilling its Olinda 96 to 8046 feet, and there is difficulty in finding any record for deep well boring which this operation has not broken.

The longest string of 4½-inch casing ever landed in well drilling is set at 8046 feet. The 4½-inch was floated into the hole by means of a cement plug, which was later driven down below the perforated and to the bottom of the hole. Two thousand feet of perforated was included in the 4½-inch string and has been set, and upon arrival of the National Seamless 2-inch drill pipe now enroute to the well, the operators will drill and wash out this cement plug.

The two-inch drill pipe enroute is a string of specially constructed seamless steel pipe which the manufacturers state should run to 9000 feet, which is the length of the string.

Another interesting item of new equipment for the continuation of drilling operations is the purchase and delivery of 9000 feet of Pacific Wire Rope Company's ⅞-inch, left laid drilling line. This is probably the longest single line ever ordered in the oil industry, and weighs, delivered, approximately 11,500 pounds, or better than five tons.

Much has been published relative the operation procedure at this well, including the various types of equipment employed in the work, along with the log of the well, and for the sake of brevity, a complete list of all items of equipment used is published with this writing, as well as a complete detailed log of the well from the ground level to its present depth of 8046 feet.

Records Broken

The Chanslor-Canfield-Midway Oil Company, which is popularly known as the C. C. M. O. throughout the West Coast oil country, and which is a subsidiary to the Santa Fe Railroad, has brought to California the record of the world's deepest man-made hole, the deepest rotary job, deepest coring job, and the deepest operation powered by electricity.

The company expresses no hope of securing production from the depth obtained in the operation, although an inspection of the log of the well will show that oil and gas showings were certainly found below 8000 feet. The well will be tested, however, at its present depth upon the arrival of the 9000 foot string of two-inch drill pipe. It is not improbable that drilling operations will be carried to a lower level in the event that mechanical conditions permit. The company is reticent in giving out their plans for the future of the operations. The work done is a valuable contribution to the scientific knowledge of deep hole conditions and as such is considered by the C. C. M. O. Although the cores taken at the extreme depths indicate oil sands, these showings are not expected to be the source of any real production and it is not unlikely that the well will be plugged back to the producing sand around 4000 feet and made into a producer.

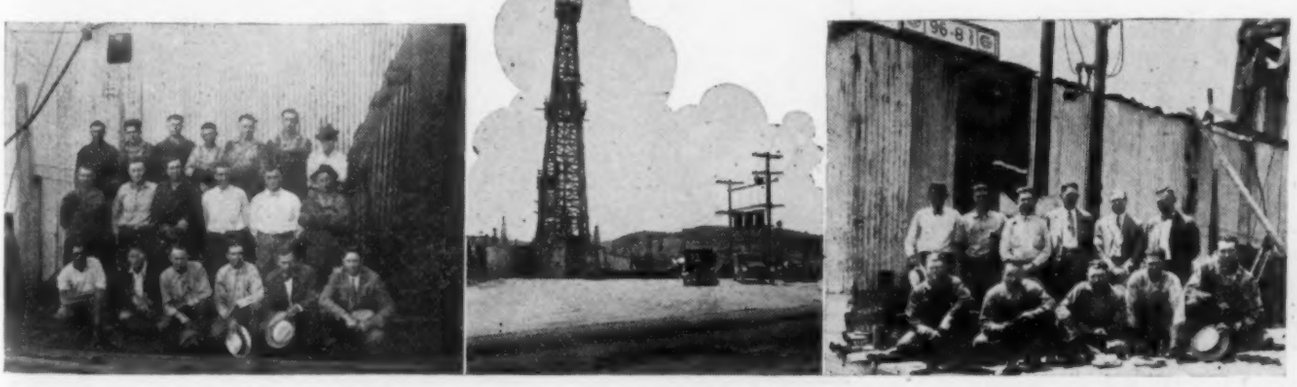
The most interesting feature of the C. C. M. O.'s record well, is the fact that it has been drilled entirely by electricity. Along these lines, it is interesting to note that the power costs for drilling this well to 8046 feet is only $8,173.43. A little over one dollar per foot of hole drilled. The operating fraternity is awaiting with interest the completion of this deep test; which is a wildcat in the middle of production, because of its depth; for it is believed that on completion of the work that the C. C. M. O. will prepare and release cost data of the operation that will be of much interest and value to the industry.

Since the production industry is highly interested in the development of electric operating methods, it is perhaps not out of line to describe the electric installation in some details here. The electrical equipment employed on this well is a duplicate of the ten similar apparatus which the C. C. M. O. has had in constant use since 1922.

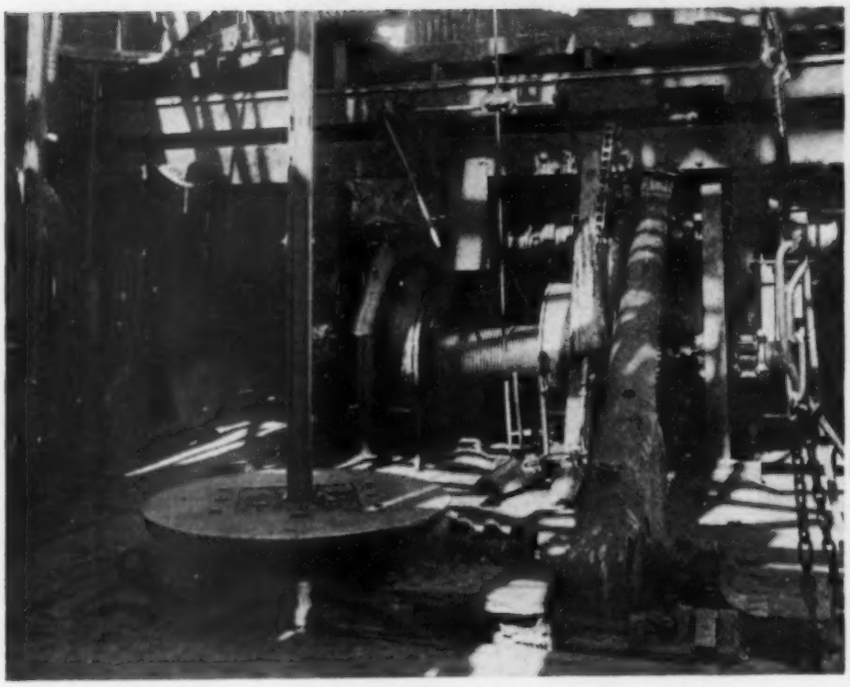
Electrical Equipment

The complete electrical equipment consists of the following: Three Westinghouse 75 K. V. A., single phase transformers, 16,500 volts to 460 volts, 50 cycles; one 100 horse power, 440 volt, three-phase, 50 cycle, 10 pole, 585 revolutions per minute, Type C. W. Westinghouse variable speed drilling motor. This motor is constructed for plugging and reversing service and has an ultimate intermittent capacity of 300 horsepower.

The controller employed with this motor is the Westinghouse contact, or cam type operated. The resistance used with this controller for starting and regulating the speed of the drilling motor is so graduated that it is not necessary to "take a run at heavy



The world's deepest well and some of the men that worked on it. At the left are the boys that did the drilling, while at the right lease foremen, production superintendents and others contributing to the success of the well.



Ideal No. 5 draw works in the background and Ideal No. 10 rotary machine in the foreground as used on the C. C. M. O.'s world record depth well, Olinda No. 96.

loads," for such loads can be picked up gradually—all of this indicates longer life to all drilling equipment. The rotary table can be reduced to five revolutions per minute. The conrtol is so arranged when drilling that resistance can be inserted in the motor rotor circuit, which provides a decided dropping speed characteristic when sudden loads are encountered, as occurs in rotary drilling.

The two Ideal mud pumps, Union Tool Company, are also driven by Westinghouse motors, type C. W. variable speed, 50 horsepower, 440 volt.

The "standard end," or "Mailpouch" section of the rig has a Westinghouse 15-35 horsepower, two speed, oil well motor, which is chain driven to a tug rim on the band wheel and chain driven to the calf wheel and sand reel. It is really standard pumping equipment, but was installed in the rig at the time of drilling to act as an auxiliary to move the drill pipe in the event of accident to the drilling motor. In the event of accident during drilling operations, all electrical equipment can be stopped at once by simply pressing a safety stop button either at the draw works or at the mud pumps.

Pipe Handled

In drilling Olinda 96, the 100 horsepower motor handled 3600 feet of 11-inch, 60 pound casing, 4691 feet of 8¼-inch, 36 pound casing, and 5596 feet of 6¼-inch, 26 pound casing, and later handled 8046 feet of 4½-inch casing. Four-inch drill pipe was used to 5596 feet. Three-inch drill pipe with 5¾-inch drill bit was used to drill out cement at 5596 feet, and this size drill pipe was used to drill to the present bottom of the hole at 8046 feet.

The electrical equipment at this well has operated for the last 12 months for a total power cost of $5525.43, which includes the 100-horsepower drilling motors, two 50-horsepower mud pump motors, one 13/35-horsepower auxiliary motor, one 10 Kilowatt change room heater, and includes about $6.00 per month for rig lighting. The power cost per month thus averages $460.45.

While the Westinghouse Electric and Manufacturing Company is very proud of the performance of their equipment at the world's deepest well, still they fully appreciate that the great skill and care of the drilling crews was possibly the most vital factor in the achievement.

The cost sheet is one of the most interesting features in connection with the record depth well. The company has compiled certain cost figures on the operation up to September 1, and since very little work has been done at the well during the last 60 days, these figures are much more interesting than the previous announcement which covered only to August 1, when a total depth of 7691 feet had been reached.

The following figures cover the operation to the depth of 8046 feet.

The Cost Sheet

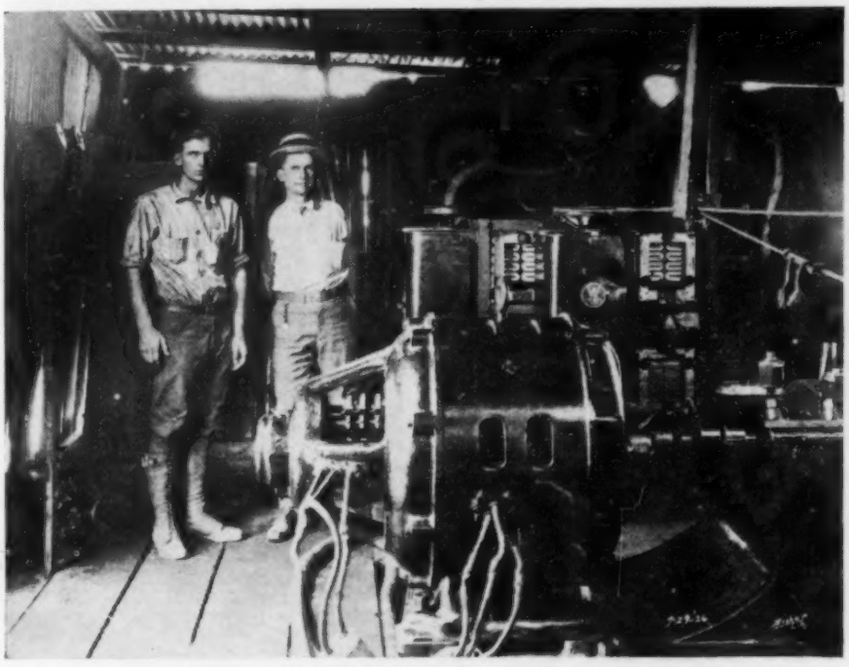
Labor	$ 67,341.88
Material	110,527.70
Power	8,173.43
Miscellaneous	26,124.02
Total	$212,167.03

Since the well was entirely powered by electricity throughout the operation, officials of the Westinghouse Electric and Manufacturing Company of Los Angeles, especially George A. Frazier, manager of the oil field department, have kept in very close touch with operating conditions since the well was spudded.

The deep well is about one-half mile west of the C. C. M. O. camp at Olinda, the legal description being, 350 S and 253 W from NW corner of SW¼ of NE¼ Section 8, T. 3S R 9W S. B. & M. The company has owned the property since 1898 and has many producing wells on the land, producing from between 3000 and 4000 feet.

The world's deepest hole was spudded in March 13, 1925. Data covering drilling operations is only available at present, up to August 1, 1926. This

Ideal power driven Duplex slush pumps used on Olinda 96



Westinghouse 100 H. P. drilling motor with controller for reversing motor and regulating speed; working with Union Tool Company's Ideal reduction gear on the Olinda 96.

brings the depth of the well down to about 8000 feet.

Days all over	516
Working days	487.9
Days suspended	28.1
Days rigging up	8
Days drilling	180
Days fish and drilling	74.3
Days repairing	20.3
Days running casing	2.6
Days reaming	21
Days redrilling	57
Days circulating	3.6
Days cementing	4
Days testing water	42.5
Days coring	26.6
Days standing cemented	47.4

The above data indicates that up to August 1 the avreage drilling per working day was 16.12 feet. The average drilling per drilling day was 43.71 feet.

Casing Record

Casing record for the well is as follows:

15½-inch cemented at 912 feet
11-inch cemented at 3600 feet.
8¼-inch cemented at 4691 feet.
6¼-inch cemented at 5595 feet.
4½-inch landed at 8046 feet.

Practically every official of the Chanslor-Canfield-Midway Oil Company is vitally interested in the successful drilling of the world's deepest well. The spirit of co-opertaion prevailing throughout the entire organization, from helper to the company manager, has had much to do with the success of the venture. Mr. Fred C. Ripley, manager of the company, in answer to the many tributes paid the company for their wonderful record, made a statement that is characteristic of the company and its personnel, that which explains the spirit of friendly co-operation that exists between the drilling crews, the foreman, superintendent and executives of the company. Mr. Ripley states, "Since this well began to assume the proportions of a world beater, the boys in the field, especially those in the rig, have put their heart and soul into the work, and to them belongs most of the credit; the rest of us have simply co-operated with them."

Up to the first of August the drilling venture had encountered water trouble 12 times and had experienced 17 fishing jobs and seven twists-off.

Members of the drilling crew are G. E. Norton, H. E. Bradley, and A. E. Spear, drillers; O. F. Culwell, C. Wilson, Paul Vanatta, R. W. Bennit and H. M. Turley, cathead men; and C. G. Etchison, R. Walters, and J. Carney, derrick men. M. J. Foster, Ray Walters, W. R. Bropher, R. L. Seals, W. W. Bird, V. B. Kimmel were helpers. George E. Ruggles is drilling foreman, and H. R. Williams, transportation foreman.

The executives and officials of the Chanslor-Canfield-Midway Oil Company who lent every assistance to the boring of the experimental deep test well are as follows:

Fred C. Ripley, manager; Ward Blodgett, assistant manager; N. W. Wickersham, engineer all fields; J. J. Hern, general superintendent; J. T. Harryman, superintendent Olinda-Richfield district; George Ruggles, drilling foreman, Olinda district, and J. Ferguson, chief lease electrician.

While the well is at present standing and awaiting the arrival of the two-inch drill pipe, it will not be many weeks before the C. C. M. O. has completed the testing of this "master-job," and due to the great interest which the accomplishment has arcused among the producing men of California, the outcome of the test is awaited with keen interest.

Log of Deepest Well

Chanslor-Canfield Midway Oil Co. Well No. 96, Brea-Olinda Field, Township 3 S, Range 9 W.

Depth—	Formation—
0- 85	Clay and gravel.
85- 130	Blue clay.
130- 155	Hard Sand.
155- 170	Sticky shale.
170- 182	Sticky bl. clay.
182- 203	Hard sand.
203- 348	Bl. shale and streaks hard sand.
348- 354	Hard sand.
354- 400	Sticky bl. shale.
400- 498	Hard sand & bldrs.

(Continued on next page)

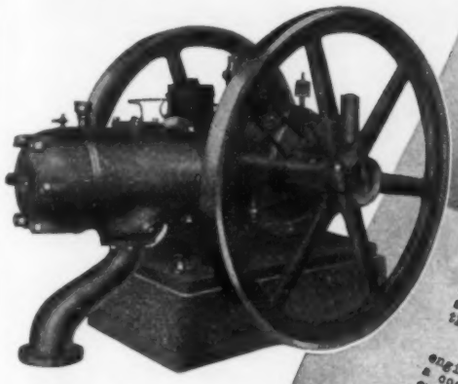
Ideal electric reduction gear used in drilling Olinda 96

498- 608 Conglomerate.
608- 623 Sticky bl. shale.
623- 645 Boulders.
645- 678 Sticky bl. shale.
678- 763 Hard sand and bldrs.
763- 858 Conglomerate.
858- 902 Conglomerate and bldrs.
902- 933 Sticky bl. shale.
933-1051 Hard sand and streaks shale.
1051-1085 Sticky bl. shale.
1085-1146 Blue shale.
1085-1146 Blue shale.
1146-1219 Hard sand shwg. O & G 1170-1219.
1219-1293 Sticky bl. shale shwg. O & G 1219-1233.
1293-1294 Shell.
1294-1318 Gray sand swg. O & G.
1318-1328 Sand shale, O & G.
1328-1370 Hard sand and bldrs. O & G.
1370-1484 Sticky bl. shale, O & G 1370-1404.
1484-1570 Hard sand and bldrs. O. & G. 1513-1570.
1570-1588 Sticky br. shale, O & G 1570-78.
1588-1654 Hard sand, O & G.
1654-1683 Br. shale, O & G.
1683-1733 Sticky br. shale, O & G.
1733-1783 Br. shale & hard sand, O & G.
1783-1852 Hard sand, O & G 1783-1817.
1852-1856 Sticky br. shale.
1856-1878 Hard sand.
1878-1925 Hard sand & str. br. shale, O & G.
1925-1962 Hard sand, O & G 1952-62.
1962-1995 Hard sand & str. br. shale, O & G 1962-76.
1995-2005 Hard sand, O & G.
2005-2035 Hard br. sandy shale, O & G 2020-2035.
2035-2047 Hard sand O & G.
2047-2048 Very hard sand.
2048-2065 Sticky br. shale.
2065-2091 Hard sand.
2091-2111 Brown shale.
2111-2117 Hard sand.
2117-2124 Brown shale.
2124-2127 Hard sand.
2127-2139 Sticky brown shale.
2139-2142 Hard sand.
2142-2157 Sticky brown shale.
2157-2175 Hard sand, O & G.
2175-2183 Brown shale, O & G.
2183-2187 Hard sand, O & G.
2187-2195 Brown shale, O & G.
2195-2207 Sticky brown shale.
2207-2215 Hard sand.
2215-2220 Sticky brown shale.
2220-2229 Sandy brown shale, O & G.
2229-2238 Hard sand, O & G 2220-2232.
2238-2242 Sticky brown shale.
2242-2296 Hard sand, O & G 2261-74.
2296-2301 Sticky brown shale.
2301-2323 Hard sand, O & G.
2323-2328 Sandy brown shale, O & G.
2328-2341 Sticky brown shale.
2341-2374 Hard sand, O & G 2349-2362.
2374-2378 Sandy brown shale.
2378-2444 Hard sand, O & G 2385-2398.
2444-2450 Sandy brown shale.
2450-2460 Hard sand, O & G 2455-2460.
2460-2471 Sandy brown shale, O & G.
2471-2473 Hard sand.
2473-2475 Sticky brown shale.
2475-2476 Hard sand.
2476-2478 Sticky brown shale.
2478-2526 Hard sandy brown shale, O & G.
2526-2550 Hard sand, O & G 2526-2528.
2550-2561 Hard shale & oil sand, O & G.
2561-2614 Hard sand, O & G.
2614-2615 Hard shell.
2615-2628 Hard sand O & G.
2629-2632 Hard sand O & G.
2628-2629 Sandy shale, O & G.
2629-2632 Hard sand, O & G.
2632-2634 Brown shale, O & G.
2634-2651 Hard sand O & G.
2651-2652 Sticky brown shale.
2652-2661 Hard sand, O & G.
2661-2665 Shell, O & G.
2665-2667 Sticky brown shale.
2667-2672 Hard sand.
2672-2676 Hard sandy brown shale.
2676-2679 Hard sand.
2679-2681 Sticky brown shale.
2681-2695 Hard sand.
2695-2705 Sticky brown shale, O & G.
2705-2738 Hard sand, O & G.
2738-2740 Sticky brown shale.
2740-2747 Hard sand.
2747-2804 Sandy brown shale, O & G.
2804-2819 Sticky br. shale, O & G.

Ideal hook and swivel used in drilling Olinda 96

2819-2871 Sticky brown shale, O & G 2862-2871.
2871-2874 Hard sand, O & G.
2874-2883 Hard sandy brown shale, O & G.
2883-2928 Sandy brown shale O & G.
2928-2940 Sandy shale, O & G.
2940-2966 Sticky shale, O & G.
2966-2970 Hard sand, O & G.
2970-2977 Sticky br. shale O & G 2970-72.
2977-2979 Hard sand.
2979-2992 Hard sandy brown shale, O & G.
2992-3001 Hard sand.
3001-3033 Hard sandy brown shale, O & G.
3033-3037 Hard sand, O & G.
3037-3044 Hard sandy brown shale, O & G.
3044-3058 Hard sand, O & G.
3058-3088 Hard sandy brown shale, O & G.
3088-3101 Hard sand, O & G.
3101-3126 Hard sandy brown shale, O & G.
3126-3136 Hard sand, O & G.
3136-3137 Shell, O & G.
3137-3192 Hard sand, O & G 3150-75.
3192-3198 Hard sandy brown shale.
3198-3217 Sticky brown shale, O & G 3204-17.
3217-3221 Hard sand, O & G.
3221-3223 Hard sandy brown shale, O & G.
3223-3233 Tough shale, O & G.
3233-3249 Sticky brown shale, O & G.
3249-3256 Hard sand, O & G.
3256-3261 Sandy shale, O & G 3258-61.
3261-3273 Tough brown shale, O & G.
3273-3307 Hard sandy brown shale, O & G 3281-3307.
3307-3319 Sandy brown shale, O & G.
3319-3320 Hard shell, O & G.
3320-3349 Hard sandy brown shale.
3349-3365 Hard sand, O & G.
3365-5582 Hard sandy brown shale, O & G.
3382-3385 Hard shell, O & G.
3385-3397 Sandy brown shale, O & G.
3397-3398 Hard shell, O & G.
3398-3402 Sandy brown shale, O & G.
3402-3404 Hard sand, O & G.
3404-3408 Sandy shale, O & G.
3408-2410 Hard sand, O & G.
3410-3435 Sandy brown shale, O & G.
3435-3442 Hard sand, O & G.
3442-3447 Sandy brown shale, O & G.
3447-3451 Sticky brown shale.
3451-3464 Hard sand.
3464-3467 Sandy brown shale.
3467-3468 Shell.
3468-3500 Sticky br. shale, O & G 3480-3500.
3500-3515 Sandy brown shale, O & G.
3515-3517 Shell.
3517-3527 Sticky brown shale, O & G.
3527-3528 Shell, O & G.
3528-3534 Sticky brown shale, O & G.
3534-3539 Hard sand, O & G.
3539-3541 Sticky brown shale, O & G.
3541-3542 Hard sand, O & G.
3542-3556 Hard sandy brown shale.
3556-3558 Hard shell; little O & G.
3558-3573 Sandy brown shale.
3573-3577 Hard sand.
3577-3585 Sticky brown shale.
3585-3590 Hard sand; little oil.
3590-3645 Brown shale.
3645-3649 Hard sand.
3649-3740 Sticky brown shale.
3740-3747 Hard sand.
3747-3757 Sandy brown shale.
3757-3759 Hard sand.
3759-3765 Sticky brown shale.
3765-3783 Sandy brown shale. Streaks of sand.
3783-3840 Sticky brown shale.
3840-3841 Shell.
3841-3848 Sandy brown shale.
3848-3864 Sticky shale.
3864-3867 Hard sand.
3867-3888 Sandy brown shale.
3888-3890 Hard sand.
3890-3920 Sandy brown shale.
3920-3928 Hard sand.
3928-3956 Sandy brown shale.
3956-3959 Hard sand.
3959-4001 Sandy brown shale.
4001-4008 Hard sand.
4008-4020 Brown shale.
4020-4024 Hard sand.
4024-4042 Sticky brown shale.
4042-4067 Tough brown shale.
4067-4072 Hard sand.
4072-4085 Sticky shale.
4085-4104 Hard sandy brown shale.
4104-4148 Sticky brown shale.
4148-4157 Sandy shale; fair showing oil and gas.
4157-4191 Sandy brown shale.
4191-4199 Sticky brown shale.
4199-4215 Sandy shale.
4215-4235 Hard sand.
4235-4345 Sandy brown shale.
4245-4254 Hard sand.
4245-4265 Brown shale.
4265-4294 Hard sand.
4294-4296 Shell.
4296-4307 Hard sand.
4307-4311 Sticky shale.
4311-4321 Brown shale.
4321-4332 Sandy shale.
4332-4354 Hard sand.
4354-4355 Shell.
4355-4366 Hard sand.
4366-4389 Hard sandy brown shale.
4389-4390 Shell.
4390-4396 Sticky shale.
4396-4398 Hard sandy shale.
4398-4421 Hard sand.
4421-4428 Sand & shale.
4428-4448 Hard sand.
4448-4465 Hard sandy brown shale.
4465-4467 Hard sand.
4467-4468 Shell.
4485-4487 Sticky brown shale.
4489-4492 Shell.
4492-4495 Hard sand.
4495-4498 Sticky brown shale.
4498-4508 Hard sand.
4508-4519 Hard sandy shale.
4519-4528 Sticky br. shale & streaks of hard sand.
4528-4532 Hard sand.
4532-4539 Hard sandy brown shale.
4539-4548 Sandy br. shale and streaks hard sand.
4548-4550 Shell.
4550-4561 Hard sand.
4561-4570 Brown shale and streaks hard sand.
4570-4575 Brown shale.
4575-4580 Hard sand.
4580-4585 Sticky brown shale.
4585-4607 Hard sand.
4607-4611 Sticky brown shale.
4611-4618 Hard sand.
4618-4622 Shell.
4622-4625 Hard sand.
4625-4626 Shell.
4626-4639 Hard sand.
4639-4642 Sticky brown shale.
4642-4653 Hard sand.
4653-4665 Sandy shale.
4665-4729 Hard sand.
4729-4731 Shell.
4731-4735 Hard sand.
4735-4745 Sandy shale.
4745-4760 Hard sand.
4760-4776 Hard brown sandy shale.
4776-4785 Hard sand.
4785-4793 Tough brown shale.
4793-4798 Shell.
4798-4832 Tough brown shale.
4832-4838 Brown sandy shale.
4838-4846 Tough brown shale.
4846-4863 Brown shale.
4863-4870 Hard sand.
4870-4879 Gray sandy shale.
4879-4885 Hard sand.

"OILWELL" Two-Cycle Engines Are Convertible From Gas to Oil or Oil to Gas



"OILWELL" Two-Cycle Gas Engine. Made in 30 and 40 H. P.
Send for Bulletin No. 65

MURCHISON & FAIN OIL COMPANY
SAN ANTONIO, TEXAS

Oil Well Supply Company,
Mexia, Texas.

Mexia, Texas, August 24, 1926.

Dear Sir:

Attention A. J. Johnson, Gas Engine Department.

In response to your inquiry as to what service we have had from your 30-H.P., two cycle "OILWELL" engine, will say that we have had an uninterrupted exceptional service from this engine.

We purchased this unit in December 1924 as an oil engine and later, due to free gas on the lease, converted it at a cost of approximately two hundred dollars into a gas burning engine and have operated it up until the present time as a gas burner. The conversion of this engine cost very little and took less than half a day to convert. I consider this convertible feature one of the advantages of your product.

We have not purchased a single repair part for this engine during this entire period and it has been operating a Mud Hog pump continuously at a two hundred fifty pound pressure.

I can most heartily and freely recommend this engine to anyone in need of dependable power.

Very truly yours,
MURCHISON & FAIN OIL COMPANY
Superintendent

DEC-JA.

"OILWELL" Two-Cycle Oil Engine. Made in 30 and 40 H.P.
Send for Bulletin No. 68

At small expense and in quick time **"OILWELL"** Two-Cycle Engines can be converted from gas to oil or vice versa to suit individual requirements. No need to purchase two separate engines.

Inquire at Any of Our 100 Branches

OIL WELL SUPPLY CO.

NEW YORK—LOS ANGELES—PITTSBURGH, U.S.A.—SAN FRANCISCO—TAMPICO—LONDON
WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

4885-4890	Sticky brown shale.
4890-4897	Brown sandy shale.
4897-4908	Hard sand.
4908-4910	Shell.
4910-4919	Hard sand.
4919-4933	Brown shale sandy.
4933-4934	Shell.
4934-4945	Hard sand.
4945-4949	Hard brown sandy shale.
4949-4956	Hard sand.
4596-4597	Shell.
4957-4967	Brown sandy shale.
4967-4968	Hard sand.
4968-4978	Brown shale, sandy.
4978-4981	Hard sand.
4981-4985	Brown sandy shale.
4985-4996	Hard sand.
4996-5006	Brown sandy shale; thin streaks shell.
5006-5014	Hard brown sandy shale.
5014-5018	Shell.
5018-5028	Hard sand.
5028-5031	Brown sandy shale.
5031-5035	Brown sandy shale streaked with thin shells.
5035-5040	Hard sand.
5040-5043	Brown sandy shale streaked with thin shells.
5043-5045	Brown sandy shale.
5045-5057	Hard sand.
5057-5069	Sandy brown shale and thin streaks shell.
5069-5075	Sandy brown shale and hard sand.
5075-5085	Hard sand.
5085-5104	Brown sandy shale.
5104-5105	Shell.
5105-5115	Brown shale, sandy.
5115-5116	Shell.
5116-5118	Brown shale.
5118-5127	Brown sandy shale.
5127-5143	Hard sand.
5143-5145	Brown sandy shale.
5145-5153	Hard sand.
5153-5162	Hard sand & strks sandy shale.
5162-5169	Hard sand.
5169-5174	Tough brown shale.
5174-5186	Brown shale streaks hard sand.
5186-5188	Shell.
5188-5195	Hard sand.
5195-5200	Brown shale.
5200-5225	Hard sand.
5225-5261	Hard brown shale.
5261-5266	Brown shale.
5266-5282	Hard sand.
5282-5289	Tough brown shale.
5289-5296	Sandy blue shale.
5296-5307	Hard sand.
5307-5317	Tough brown shale.
5317-5322	Hard sand.
5322-5327	Brown shale.
5327-5328	Sand.
5328-5346	Tough brown shale.
5346-5360	Hard sand.
5360-5363	Brown shale.
5363-5367	Hard sand.
5367-5370	Town brown shale.
5370-5372	Brown shale.
5372-5374	Hard sand.
5374-5382	Streaks hard sand and brown shale; light showing gas.
5382-5409	Hard sand and brown shale.
5409-5414	Hard sand.
5414-5416	Brown shale.
5416-5423	Brown shale and streaks hard sand.
5423-5438	Hard sand, some gas and little color at 5423.
5438-5441	Hard sand streaks tough br. shale.
5441-5448	Hard sand.
5448-5516	Hard sand and streak tough brown shale; some gas.
5516-5518	Hard sand.
5518-5520	Brown shale.
5520-5521	Sand.
5521-5525	Brown shale.
5525-5528	Hard sand and streak brown shale.
5528-5535	Hard sand.
5535-5544	Hard sand and streak brown shale.
5544-5555	Hard sand.
5555-5581	Rotten br. shale & str. hard sand.
5581-5593	Brown shale and streak hard sand.
5593-5595	Brown shale. (Core.)
5595-5596	Coarse sand. (Core.)
5596-5617	Hard sand.
5617-5624	Sandy brown shale showing oil. Core 5617-24.
5624-5625	Hard shell.
5625-5634	Brown shale and streak hard sand.
5634-5639	Sandy brown shale.
5639-5640	Hard sand.
5640-5648	Brown shale and hard sand. Core 5640-48.
5648-5653	Hard sand. Core.
5653-5654	Hard sandy brown shale showing oil.
5654-5656	Gray sand.
5656-5658	Brown shale and hard sand. Core.
5658-5660	Hard sand.
5660-5666	Hard brown shale and hard sand showing oil.
5666-5669	Hard sandy shale.
5669-5674	Hard sand and hard brown shale.
5674-5679	Coarse sand. Core.
5679-5680	Brown shale.
5680-5685	Hard sand and brown shale.
5685-5689	Tough brown shale.
5689-5714	Tough brown shale and hard sand.
5714-5715	Brown shale.
5715-5723	Hard shell.
5723-5755	Hard sand an dtough brown shale.
5755-5762	Hard sand. Gas. 5670-5789, Core.
5762-5789	Sandy brown shale.
5789-5795	Hard sand.
5795-5817	Hard sand and brown shale.
5817-5830	Hard sandy brown shale.
5830-5831	Hard sand.
5831-5858	Hard sand and brown shale.
5858-5875	Brown shale and str. hard sand.
5875-5888	Sand (gas).
5888-5912	Hard sand and brown shale O. & G.
5912-5955	Hard sand and tough brown shale.
5955-6312	Brown shale and str. hard sand. Gas 6227-31.
6312-6327	Sticky brown shale.
6327-6333	Brown shale.
6333-6337	Hard sand.
6337-6361	Tough brown shale.
6361-6504	Hard sand and brown shale.
6504-6545	Hard sand. Light showing oil 6504-6507.
6545-6565	Hard sand and brown shale.
6565-6577	Hard sand.
6577-6678	Hard sand and brown shale.
6678-6684	Hard sand.
6684-6711	Hard sand and brown shale.
6711-6727	Hard sand.
6727-6747	Hard sand and brown shale.
6747-6756	Hard sand.
6756-6774	Hard sand and brown shale.
6774-6811	Hard gray sand.
6811-6852	Hard sand, sandy brown shale.
6852-6866	Hard sand.
6866-6882	Hard sand and brown shale.
6882-6889	Hard sand.
6889-6909	Hard sand and brown shale.
6909-6912	Hard sand and brown shale.
6912-6923	Hard sand and brown shale.
6923-6925	Hard sand.
6925-6983	Hard sand and brown shale.
6983-7044	Hard sand.
7044-7069	Sticky brown shale.
7069-7071	Hard sand and brown shale.
7071-7078	Hard sand and sticky brown shale.
7078-7103	Hard sand.
7103-7130	Hard sand and brown shale. Showing gas 7113-30.
7130-7132	Brown shale.
7132-7145	Hard sand and brown shale.
7145-7149	Sticky brown shale.
7149-7187	Hard sand.
7187-8211	Hard sand and brown shale.
7211-7227	Hard sand.
7227-7252	Hard sand and brown shale.
7252-7258	Hard sand.
7258-7265	Sandy brown shale.
7265-7266	Soft gray sand.
7266-7270	Hard sand.
7270-7300	Hard sand and brown shale.
7300-7323	Hard sand.
7323-7348	Hard sand and brown shale. oil and gas 7343-7368.
7348-7429	Hard sand.
7429-7443	Hard sand an dtough brown shale.
7443-7448	Hard sand.
7448-7456	Hard sand and brown shale.
7456-7474	Sticky brown shale.
7474-7480	Brown shale.
7480-7527	Hard sand.
7527-7543	Hard sand and brown shale.
7543-7631	Gray sand.
7631-7642	Hard sand.
7642-7643	Gray sand.
7643-7645	Brown shale and gray sand.
7645-8658	Gray sand.
7658-7708	Hard sand.
7708-7719	Gray sand.
7719-7740	Hard sand.
7740-7750	Gray sand.
7750-7760	Hard sand and brown shale.
7760-7763	Hard sand.
7763-7773	Hard sand and brown shale.
7773-7777	Hard sand.
7777-7784	Hard gray sand.
7784-7825	Hard gray sand and sandy brown shale.
7825-7871	Gray sand and brown shale.
7871-7877	Sticky brown shale.
7877-7889	Sandy brown shale.
7889-7892	Sticky brown shale and sandy brown shale.
7892-7894	Brown shale.
7894-7898	Hard sand.
7898-7905	Brown shale.
7905-7937	Sticky brown shale.
7937-7938	Hard sand and brown shale.
7938-7955	Sticky brown shale.
7955-7975	Brown shale and hard gray sand.
7975-8000	Hard gray sand.
8000-8014	Hard sand and brown shale.
8014-8020	Hard gray sand, showings oil and gas.
8020-8041	Brown shale and hard sand, showings oil and gas.
8041-8046	Hard sand, showings oil and gas 8041 to 8043.

EQUIPMENT USED ON DRILLING WORLD'S DEEPEST WELL

Equipment used in the Olinda No. 96, includes the following:

Electric motors and all electric equipment—Westinghouse Electric & Manufacturing Company.

Draw works—Union Tool No. 5 Ideal, with cast iron drum.

Rotary—Union Tool No. 10 Ideal Rotary.

Reduction gear—Union Tool Ideal, both drilling and auxiliary.

Slush Pumps—Union Tool Ideal 12x6 3/4 inches.

Swivel—Union Tool Ideal 12x6 3/4 inches.

Tongs—Vulcan, Wilson, and Dunn-Smith suspension type safety tong.

Elevators—Wilson, and Dunn Company's rotary flyer double door type.

Drill Pipe—Pittsburgh Steel and Standard Seamless upset drill pipe, three inch, 13 1-4 pounds per foot, in 22 foot lengths. Tool, Baash-Ross, and Union Tool.

Tool Joints—Down to 7500 feet. Union Tool and Baash-Ross and Emsco tool joints. Later, Craig Oil Tool Co. joints of special alloy steel weighing 46 pounds each, two tool joint to each stand of four lengths of pipe.

Bits—Union Tool Co. fish tail, Emsco Fishtail, Craig detachable fish tail, and U. S. Discs—in softer formations. Hughes Tool Company and Reed Roller bits interchanged in deeper and harder formations.

Crown block—C. C. M. O. type made by Union Tool Company to 7474 feet. Emsco special heavy duty type deeper.

Cathead—Emsco friction cone type.

Bandwheel—Emsco.

Sand reel—Emsco chain driven.

Bull wheel—Emsco.

Chain—Emsco 130 and 1240 chain, also Chabelco No. 1240 by Chain Belt Company.

Wire line—Casing line by Pacific Wire Rope Company manufactured in Los Angeles; Pacific super steel casing line, one-inch 6-19 strand, 2500 feet. Also 900 foot, 7/8-inch line, weighing approximately 11,500 lbs., by Pacific Wire Rope Company. Also Roebling one-inch oil well type.

Weight-Indicator—Loomis Oil Well Control, Martin-Loomis type.

Traveling block—Oil Well Supply Company.

Slips—Baash Ross.

Overshot—Baash-Ross.

Pistons—D & M in one pump. Greenwood piston, second pump.

Kammerdimer Jars.

Cores—Over 40 cores taken with Smith-Phipps core barrel.

C. C. M. O. installed its own water cooling system for the drum.

Derrick—122 foot derrick made by Bird and Allen of Olinda, California.

A portion of the Empire's pipe yard at Oil Hill, Kansas

Empire Warehouse System Keeps Permanent Inventory

By ROYE MUNSELL
Staff Representative

WITH a system of centralized stores management and control the Empire Companies are able to secure a better distribution and a greater utilization of all materials and supplies, both new and used.

At the Bartlesville office is kept a set of ledgers which show in detail all materials on hand. By this means the office is able to know at all times the quantity of materials at any warehouse and the total stock held. Since the unit price of each item is also shown, the total value is likewise a matter of ready reference.

These stock ledgers are handled with Borroughs accounting machines and are balanced each month with a general control kept in the accounting department.

The value of such a system is at once apparent. As it has already been mentioned, all classes of materials, new, used and reclaimed, are handled in this manner. The handling and distribution of second hand and reclaimed materials comes under the stores department just the same as new materials. A complete record of them as to quantity, condition, value, location, etc., is kept in the stock ledgers.

By this system Paul F. McBride, the superintendent of the stores department, knows just where everything is and can transfer materials and supplies from a point where they are not being used or are no longer needed to another point where they are in demand.

Controls Stock

Only by some such means on control, it is the opinion of Mr. McBride, can an adequate utilization of not only much reclaim materials, but new stuff as well, be obtained. Stocks are not allowed to accumulate unnecessarily at any one point and inventories are kept at a minimum.

In the Empire Companies all purchase requisitions for new materials are routed through the stores department before they are given to the purchasing agent. The stores department by referring to their stock ledgers can check to make sure that the materials wanted are not in stock at some accessable point and thereby prevent any unnecessary purchases.

The warehouse department, or stores department, as it is also called, might very well be divided into two large divisions: one, the central office at Bartlesville, which maintains the control of all operations, and the other, the several warehouses scattered over the properties, which receive, store and disburse the materials.

The warehouses carry all kinds and classes of materials according to the demands made on it. A few warehouses, it so happens, handle materials for only one division, yet that is because the demand in that particular locality is limited to that class. Where more than one operating unit is to be found in the same locality, one warehouse will supply all divisions, whether they be oil, natural gas, gasoline, refinery or pipe line.

Stocks Carried

The sizes of the warehouses maintained depend on the requirements of

MONTHLY WAREHOUSE REPORT

STOCK ACCT No. ..... CO. ..... WAREHOUSE .....

..... 19 ....

	Actual This Month	Increase This Month	Actual Last Year To Date	Actual To Date	Increase To Date
STOCK LEDGER BAL. 1st of Mo.					
DEBITS FOR MO. — Purchase					
DEBITS FOR MO. — Co. Trs.					
DEBITS FOR MO. — Transfer					
DEBITS FOR MO. — TOTAL					
CREDITS FOR MO. — Issue					
CREDITS FOR MO. — Co. Trs.					
CREDITS FOR MO. — Transfer					
CREDITS FOR MO. — TOTAL					
STOCK LEDGER BAL. END of Mo.					
NET CHANGE FOR MONTH					
TICKETS					
Tickets Posted During Month					
No. Stock on Hand During Month					
SALES OF OBSOLETE AND SURPLUS MATERIAL					
ACCT. LISTED ON LIST NO.					
ACCT. LISTED ON LIST NO.					
TOTAL LISTED					
ACCT. NOT A/C. ORDERS NO.					
ACCT. NOT A/C. ON HAND AT END OF MO.					
STOCK LEDGER ADJUSTMENT					
M. Bal. 1st of Month					
M. Debits for Month					
M. Credits for Month					
M. Bal. at End of Month					
INVENTORIES					
Amount Charged					
ACCOUNTS LOST					
ACCOUNTS FOUND					
DIFFERENCE					
WAREHOUSE EXPENSE					
Total Wkly. Expense					
Total Wkly. Credit					
Net Debit or Loss					
Inv. 1st of Month					
Inv. End of Month					

ANALYSIS OF WAREHOUSE EXPENSE

ACCOUNT NUMBER 240

COMPANY ..... 19 .... WAREHOUSE .....

	Actual Expense This Month	Increase This Month	Actual Last Yr. To Date	Actual Expense To Date	Increase To Date
A Wkly. Labor & Plant Charge					
A OFFICE LABOR, Salaries					
Domestic Overhead					
B Supplies and Sundry Exp.					
F Auto Exp. and Hauling					
G Depreciation on Plant, Equip.					
Total Wkly. Cost to Co.					
D Pro. or Wkly. Chg. to Wkmn.					
TOTAL WKMN. EXPENSE					
TOTAL WKMN. CREDIT PAID					
NET AMOUNT					
OPERATING RATIO					

Fig. No. 1. Forms used by each warehouse to prepare a monthly report required by the central control office. Sheet 2 of this report is an analysis of warehouse expense.

SK 51-250 Blks 3-26-115107

WAREHOUSE CREDIT TICKET No. 48449

Date .....

From ..... To .....

Material Used For .....

CREDIT ACCT. NO.

CHARGE ACCT. NO.

FIELD ORDER NO.

PAGE NO.	QUANTITY	SIZE	ARTICLES	NEW OR 2ND H	CLASS	UNIT PRICE	AMOUNT

LOADED BY	HAULED BY	ABOVE MATERIAL REC'D.	REQUISITION NO.	TOTAL
		Original		
LOADED BY	HAULED BY	ABOVE MATERIAL REC'D.	REQUISITION NO.	TOTAL
		Copy 1		
LOADED BY	HAULED BY	ABOVE MATERIAL REC'D.	REQUISITION NO.	TOTAL
		Copy 2		
LOADED BY	HAULED BY	ABOVE MATERIAL REC'D.	REQUISITION NO.	TOTAL
		Copy 3		
LOADED BY	HAULED BY	ABOVE MATERIAL REC'D.	REQUISITION NO.	TOTAL
		Copy 4		

Fig. No. 3. Warehouse credit ticket for handling goods received

the localities which they serve. A few warehouses such as those at Okmulgee, Ponca City, Oil Hill, etc., must serve practically all divisions and are, therefore, required to carry complete stocks. Such warehouses are called "main warehouses," the significance being that virtually all kinds and classes of materials and supplies are handled.

Other warehouses which need carry only small stocks or certain classes of stocks are known as "limited warehouses," the significance in this case being that such warehouses are limited to the things which need to be carried. At a limited warehouse only large items are held as a rule.

With changing conditions, such as the passing of a property from a state of construction to a straight operating status, a main warehouse may be changed to a limited warehouse. A main warehouse is usually maintained during periods of active development and construction.

A storekeeper at each main warehouse is responsible to the superintendent of stores for the functioning of his warehouse. He handles all receipts and disbursements and keeps the necessary stock records.

In the case of a limited warehouse charge may be placed upon one of the local field men who takes care of it part time, as he is needed.

Requisitions

The storekeepers prepare the purchase requisitions, which, after being approved by the superintendent who will make use of the materials, are sent to the Bartlesville office. There they are checked in the manner already described so that if the material wanted is on hand and accessible it may be transferred to that place.

Not a little thought is given by the control office at Bartlesville to the value of the materials to be transferred and the cost of moving them. If it is possible to transfer the materials to a good advantage, it is done, otherwise it is not attempted.

Each main warehouse is really a small business in itself with the storekeeper as the manager. He has a certain budget to operate on during the year and he can figure his "profits" or "losses" just as any thorough going concern can. He is expected to operate at a certain per cent of the materials disbursed. In some cases this is 6 per cent. If the storekeeper operates under this figure he shows a profit; if he doesn't he shows a loss. If a loss is shown the business is analyzed so the cause can be determined and corrected if possible. If the loss is because his "turn over" isn't sufficient, consideration is at once given to the possibility of discontinuing the warehouse as a main warehouse or combining it with another.

Monthly Report

By means of a report which each storekeeper is required to prepare monthly for his own information and the records at the main office, it is possible to analyze his business pretty

BK50-2M Blks 10-25-111847

WAREHOUSE CHARGE, TICKET No. B 79002

Date .....

From ..... To .....

Material Used For .....

CHARGE ACCT. NO.

CREDIT ACCT. NO.

FIELD ORDER NO.

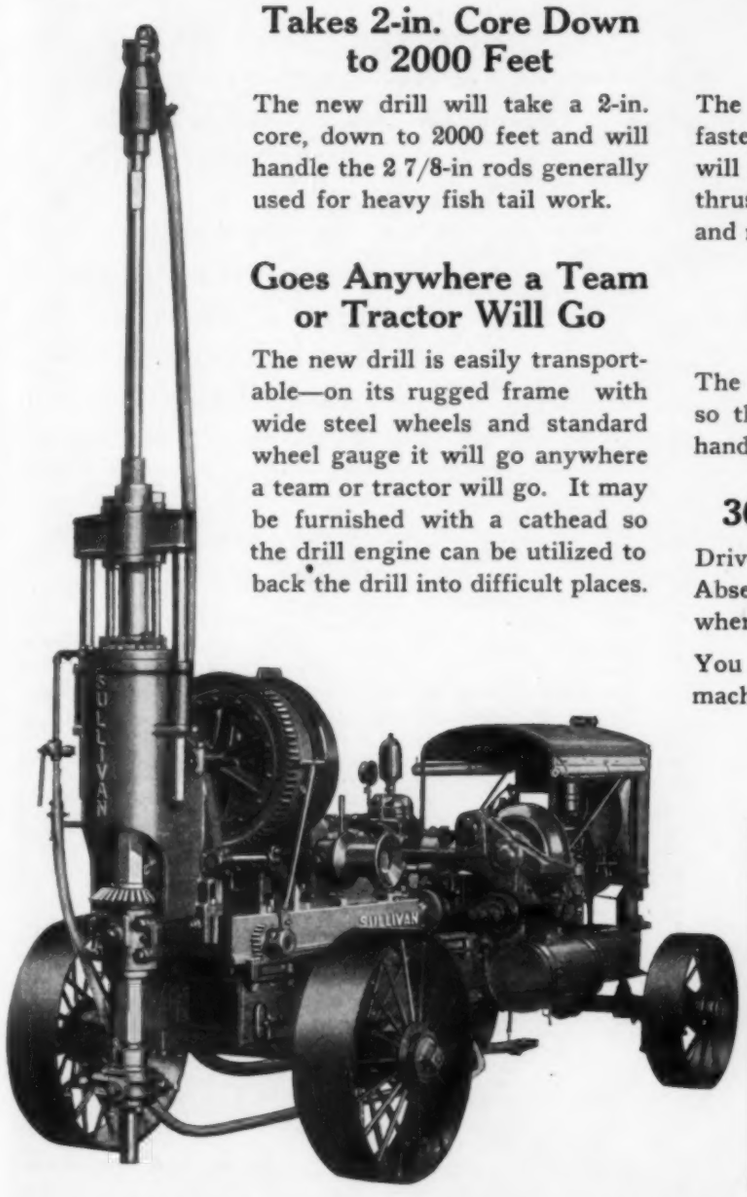
Page No.	Quantity	Size	ARTICLES	New or 2nd H.	Class	Unit Price	Amount

LOADED BY	HAULED BY	ABOVE MATERIAL REC'D.	REQUISITION NO.	TOTAL / WHSE. EXP.
		Original		
LOADED BY	HAULED BY	ABOVE MATERIAL REC'D.	REQUISITION NO.	TOTAL / WHSE. EXP.
		Copy 1		
LOADED BY	HAULED BY	ABOVE MATERIAL REC'D.	REQUISITION NO.	TOTAL / WHSE. EXP.
		Copy 2		
LOADED BY	HAULED BY	ABOVE MATERIAL REC'D.	REQUISITION NO.	TOTAL / WHSE. EXP.
		Copy 3		
LOADED BY	HAULED BY	ABOVE MATERIAL REC'D.	REQUISITION NO.	TOTAL / WHSE. EXP.
		Copy 4		

Fig. No. 4. Warehouse charge ticket for handling goods disbursed

New Sullivan Portable Oil Drill

Have you seen the new portable diamond drill designed after extensive study in the oil country, by Sullivan engineers? Oil men who have seen it say it is far superior to any mounted core drill ever offered to the industry.



Takes 2-in. Core Down to 2000 Feet

The new drill will take a 2-in. core, down to 2000 feet and will handle the 2 7/8-in rods generally used for heavy fish tail work.

Goes Anywhere a Team or Tractor Will Go

The new drill is easily transportable—on its rugged frame with wide steel wheels and standard wheel gauge it will go anywhere a team or tractor will go. It may be furnished with a cathead so the drill engine can be utilized to back the drill into difficult places.

Extra Rugged Swivel Head With 18-in. Feed

The swivel head has an 18-in. feed, enabling faster drilling. It has a hexagon drive rod that will stand years of abuse. It has a ball bearing thrust head completely inclosed to exclude mud, and running in grease.

Plenty of Working Room Around the Hole

The drill can be slid back off the hole, 18 inches, so there is plenty of room for pulling rods or handling casing.

30 H. P. Buda Gasoline Engine

Drive is by a 30-H.P. Buda gasoline engine, Absence of boiler is an important advantage, where good water is scarce.

You will want to know more about this new machine.

Fill Out the Coupon Below and Mail it Today.

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well. The form of this report is shown in Fig. No. 1.

The warehouses scattered over the companies' properties function as units for taking care of reclaim materials. The used materials taken out of service are brought into the warehouse on an order (see Fig. No. 2) signed by the local field man in charge.

On receipt of the materials at the warehouse a credit ticket is prepared (see Figs. Nos. 3 and 4) for the proper department. Copies of this go to the Bartlesville office to be recorded and the amount of credit entered. One copy is sent back to the field man so that he may know exactly how much credit his department received for the materials he took out of service and turned over to the stores department.

Most classes of materials are depreciated at a given prearranged figure when they are received at the warehouse. This figure is not arbitrary, but is intended to be in keeping with the general condition of the article and

(Continued on page 98)

PANHANDLE PRODUCTION

Amarillo, Texas—Daily average production in the five counties producing oil in the Texas Panhandle district for the week ending November 27, is listed below bycompanies, with the total producing wells included:

	Number Wells	Daily Prod. Average
Carson County—		
American Refining Company	8	800
Empire Gas & Fuel Company	1	10
Gates Oil Company	1	10
Gulf Production Company	18	515
Marland Oil Company	13	1,315
Republic Production Company	1	110
Roxana Petroleum Corporation	1	275
W. W. Silk et al	3	165
Skelly Oil Company	2	100
Sunny Jim Oil Company	2	35
The Texas Company	11	270
Totals	61	3,605
Totals previous week	61	3,715
Gray County—		
Canyon Oil Co. & Champlin Ref. Co.	1	35
Empire Gas & Fuel Company	2	35
Gulf Production Company	8	1,885
Humble Oil & Refining Co.	3	340
Magnolia Petroleum Co.	10	380
Marland Oil Company	1	45
McMan Oil & Gas Company	7	850
Phillips Petroleum Company	3	310
Prairie-Shamrock Pet. Co. et al	5	750
Pure Oil Company	2	280
Roxana Petroleum Corp.	1	50
The Texas Company	2	35
Wilcox Oil & Gas Company	13	4,115
Young et al	1	30
Totals	59	9,140
Totals previous week	56	9,775
Hutchinson County—		
Alaska Petroleum Company	1	40
Amerada Petroleum Corportion	9	785
American Refining Company	5	695
Apex Oil Company	2	265
Badger Oil Company	2	160
R. G. Barnum et al	1	50
Brookins-Kistler et al	2	245
Buffalo Oil Company	1	35
Canadian River Oil Company	5	44
Centerdome Oil Company	2	30
Walter Cline & Douglas Oil Co.	1	10
Coble-Whittenburg Oil Company	4	750
Cockrell-McIlroy Oil Company	4	485
Continental Oil Company	1	5
Currie Bros. & J. R. Phillips	2	1,765
Delmar Oil Company	1	35
Derby Oil Company et al	4	2,490
Devonian Oil Company	6	1,800
Dixon Creek Oil Company	25	7,900
Double Five Oil Company	1	45
Douglas Oil Company	1	10
J. B. Dunnigan et al	2	265
Echo Oil Company	3	1,950
Empire Gas & Fuel Company	14	4,920
Fly-Blackburn Oil Company	2	250
Gates Oil Company	4	410
Golding-Phillips Oil Company	1	15
Goldelline Oil Company	5	215
Gopher Oil Company	1	20
Gulf Production Company	34	10,825
Gulf-Cline-Panhandle Ref. Co.	45	6,965
L. R. Hagey et al	1	10
W. Scott Heywood	2	35
W. H. Holmes et al	2	590
Holmes-Currie-McKnight	3	505
J. K. Hughes Development Co.	17	2,690
Japhet Prod. Co. et al	5	595
Julian Petroleum Corporation	5	5,500
J. H. Lenix et al	1	25
Lucky Ten Oil Company	3	150
Marland Oil Company	46	9,200
S. D. McIlroy	4	1,510
S. D. & W. W. McIlroy	8	2,500
McIlroy Oil Company	3	350
McIlroy-Herring Oil Company	4	645
McMan Oil & Gas Company	17	8,310
J. H. Middleton et al	3	65
Mid-West Exploration Co. et al	9	1,300
Minnehoma Oil Co. & Kistler	1	55
Murchison-Fain Oil Company	2	445
Newby Oil Company	2	60
New Domain Oil & Gas Company	3	125
Panhandle Oil Company et al	1	155
Pantex Oil Co. (was Westex)	9	3,450
Pattison-Lenix Oil Company	2	2,100
J. R. Phillips	1	10
J. R. Phillips et al	3	200
J. R. Phillips & W. S. Heywood	2	1,060
Phillips Petroleum Co. et al	95	33,750
Prairie O. & G. Co. & Phillips Pet. Co.	33	6,905
Relief Oil Company	4	820
Henry Riley et al	1	195
Henry Riley & W. H. Holmes	2	410
Roxana Petroleum Corporation	8	730
Ryan Con. Pet. Corp. (Morton)	3	400
Skelly Oil Company	19	7,760
Skiatex Petroleum Company	4	705
J. L. Smith	2	55
Smith-Bynum et al	2	240
Southwestern Oil & Dev. Co.	2	3,645
Spring Creek Oil Company	5	510
Summit Oil & Ref. Corp.	2	290
Sunburst Oil Company	2	995
Sunrise Oil Company	1	5
Sunny Jim Oil Company	5	500
J. A. Swindler & Son	1	15
Travelers Oil Company	2	425
Triangle Oil Company	3	2,540
J. D. Ward et al	2	45
White Eagle O. & R. Co. et al	18	2,500
Totals	567	148,955
Totals previous week	550	152,570
Potter County—		
Amirillo Oil Company	1	30
Wheeler County—		
Continental Oil Company	2	230
Gibson Oil Corporation et al	2	145
Mid-Kansas Oil & Gas Company	1	30
Mid-West Exploration Company	3	30
Murchison-Fain Oil Company	1	40
The Texas Company	1	75
World Oil Company	1	550
Totals	11	1,100
Totals previous week	10	530
Grand totals for past week	699	162,830
Grand totals for previous week	678	166,620

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Ajax today sets the drilling pace. Its larger, higher powered engines introduce original Ajax improvements with a standard of construction that is always bettered. Ajax originates; others imitate.

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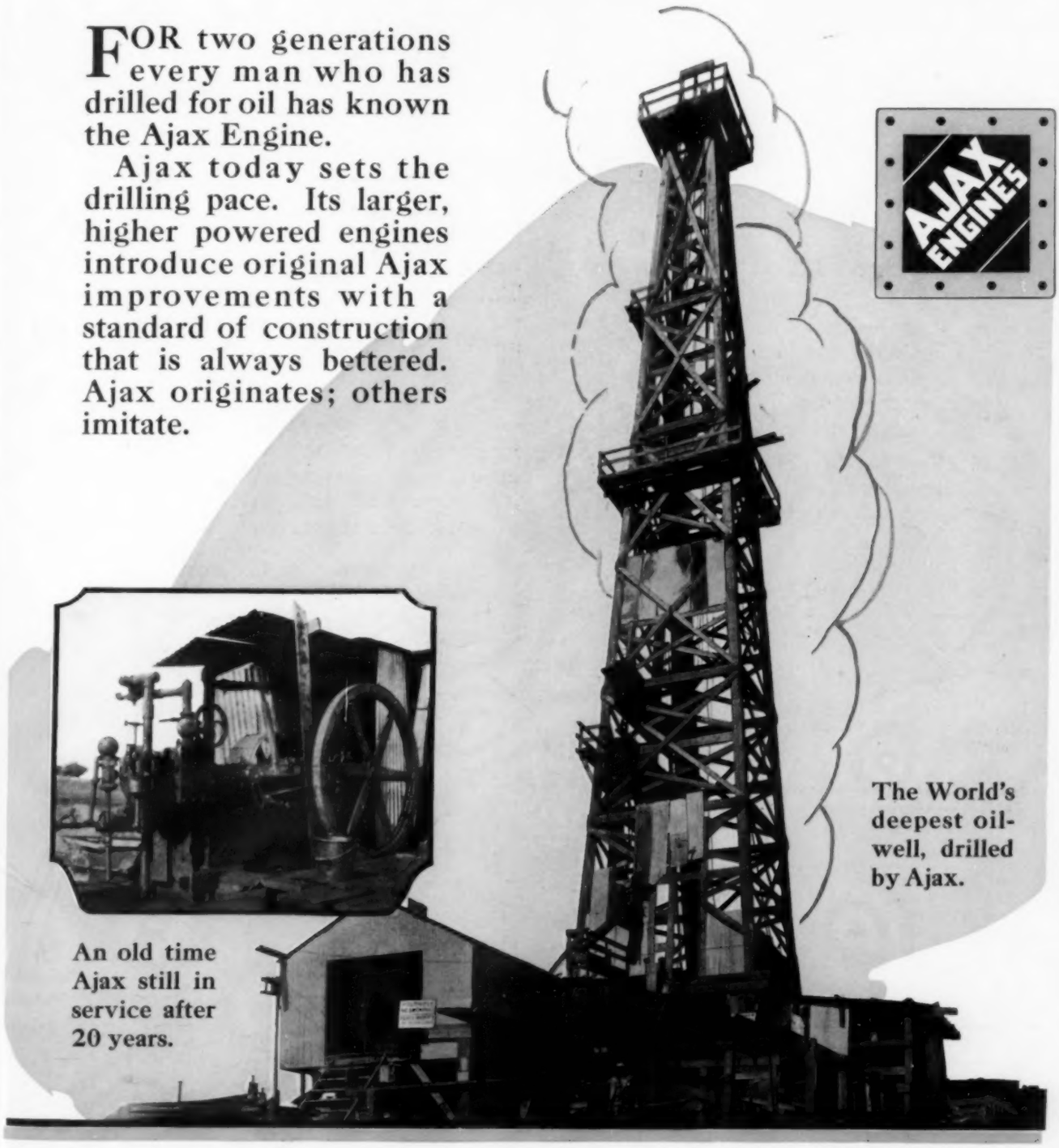

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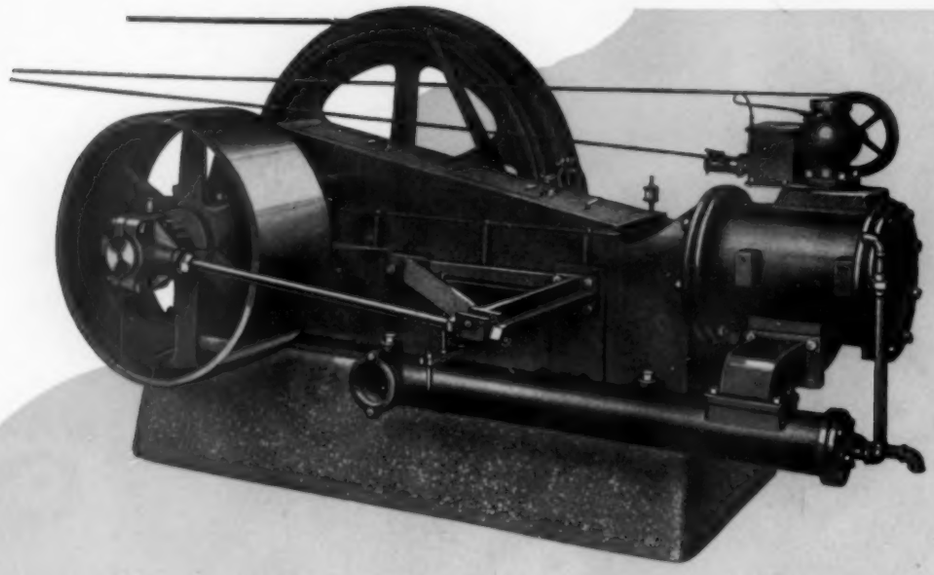

Ajax Single Cylinder Engines—enclosed type—are now manufactured in seven sizes from 10 x 12 up to 14 x 14. Open type in nine sizes, from 9 x 12 to 16 x 16.

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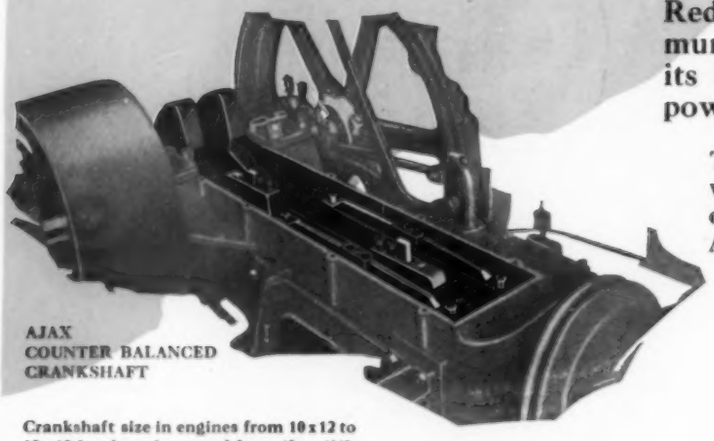

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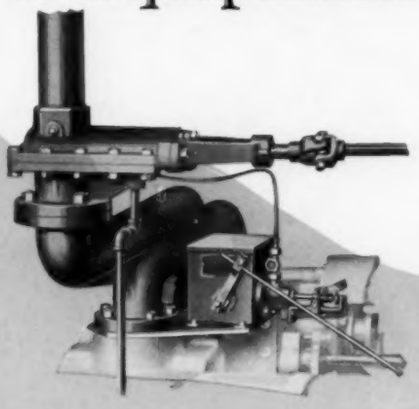

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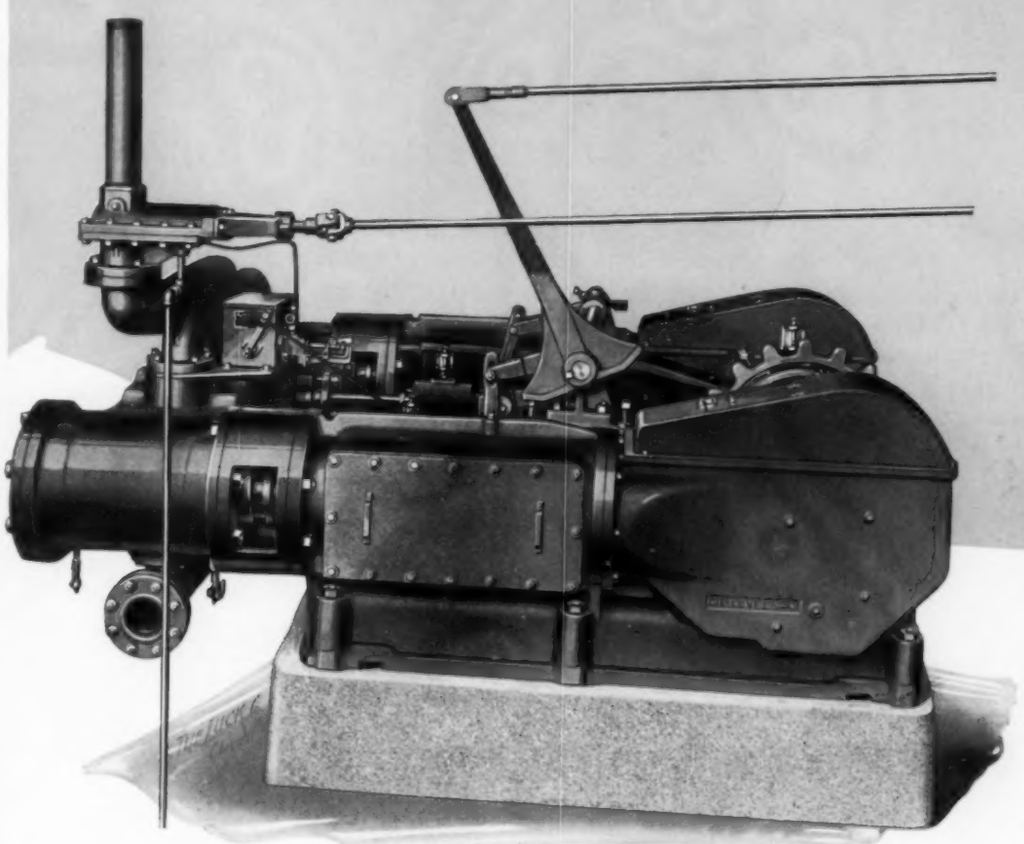

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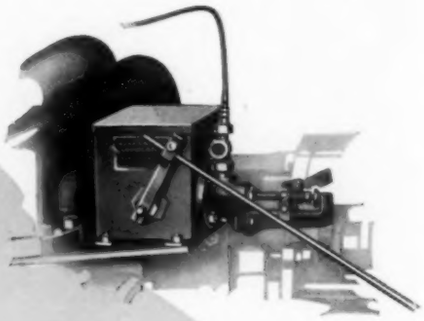

THE AJAX-CARSON IMPROVED SIGHT FEED LUBRICATOR FOR ALL DRILLING ENGINES

The AJAX-Greenwood Safety Throttle Valve

has already proved its value to oil field operators. When closed it automatically opens a by-pass which releases any steam left under compression in the cylinders or in the manifold. It thus becomes impossible for the engine to turn over after the operator has shut it off. Accidents are prevented and the equipment is handled with greater accuracy.

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IN EVERY OIL FIELD

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Wilcox Sand Objective of Deeper Drilling in Oklahoma

Formations run deeper to the southwest and large area warrants testing below State's present maximum depth

By HASTINGS FAULKNER
Staff Representative

Tulsa.—Search for the Wilcox sand has become the prime effort in building new production in Oklahoma.

The tendency has been toward deeper drilling for several years. The Wilcox seems to hold greater possibilities than any other deep formation. Recent successes within the Seminole area have stimulated the effort. Seminole City, Searight and Earlsboro are three distinct pools, each having Wilcox production along with production from shallower sands and from the Hunton lime, just above the Wilcox.

Depth of the Wilcox in the Seminole area, as well as in other fields, indicates that still deeper drilling will be necessary in testing the Wilcox as wildcatting moves south and west of Seminole.

So far Oklahoma has had little of deep drilling, as it is known in California and the Texas Gulf Coast. With 5000 foot wells becoming common and some drilling being successful below 7000 feet in both Texas and California, Oklahoma operators have the means of testing for the Wilcox over a wide area.

Deep Drilling Hopeful

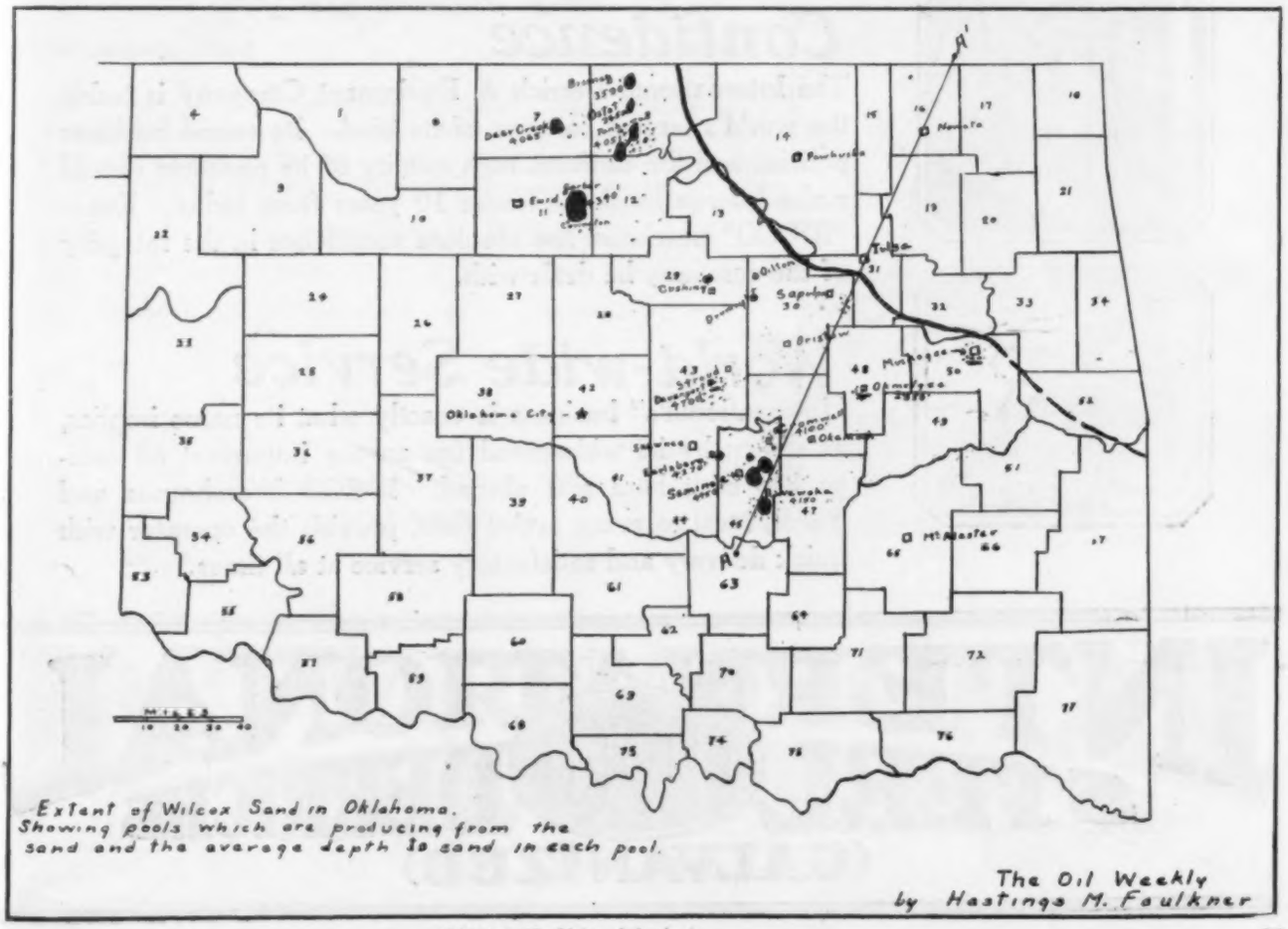
At present Oklahoma has scant production below 5000 feet. In fact little of Oklahoma's present producing area will bear drilling of that depth, for granite is found before the depth can be reached.

The Wilcox runs deeper as it moves southwestward. No tests have been drilled to give information as to depth at which it can be found.

But if wells can be drilled successfully to 7000 feet and deeper, then the area south and west of Seminole and Wewoka holds possibilities that must be drilled in order to thoroughly test for oil.

The Wilcox sand has become well known as a great producing horizon for oil in Oklahoma. According to Luther H. White, chief geologist of the J. A. Hull Oil Company, this sand varies in thickness from a few feet in its northern limit to a maximum thickness of 250 to 300 feet in the vicinity of Stroud and Henryetta. In its thickest portion it remains a remarkably pure sand of uniform character. Large round grains may be found in the sand which occur at the top of the sand as encountered in the well rather than farther into the sand body. Farther into the sand body the sand is generally fine and angular. The Wilcox sand is hard to differentiate from the Tyner formation which underlies it.

From wells that have been drilled to the Wilcox sand, it is shown that the



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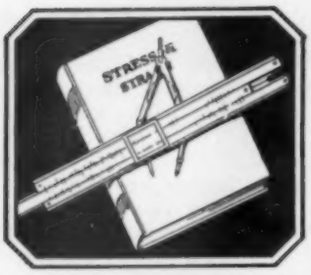

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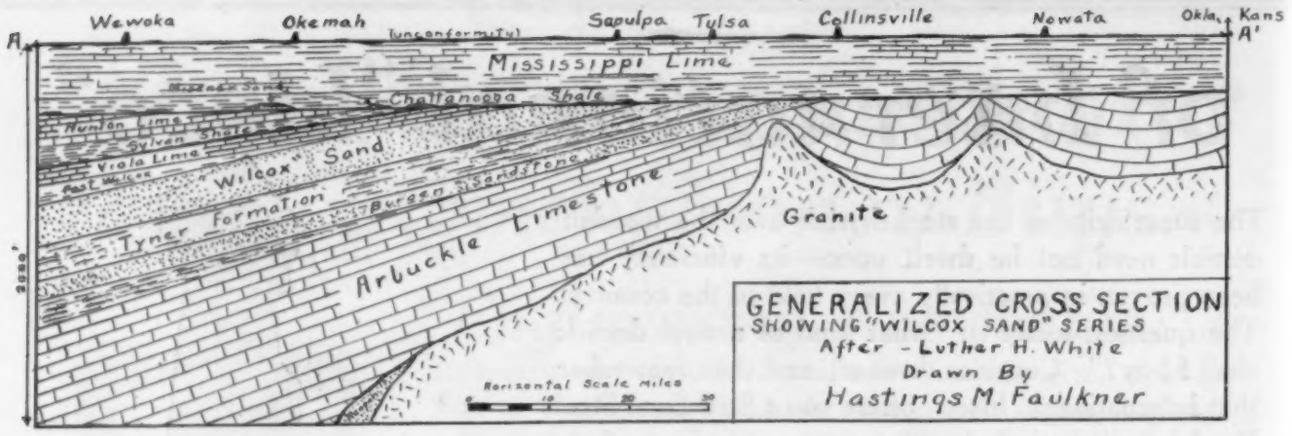

sand with other pre-Chattanooga formations meets the Chattanooga shale in an unconformity. The Wilcox sand cannot be found northeast of the heavy line on the accompanying Oklahoma map of the Wilcox sand. During the last few years hundreds of test wells have been drilled in search of the Wilcox sand.

Sand Deceptive

In some parts of the State some tests have been made which were supposed to go to the Wilcox and were plugged back and abandoned because they found water in what the driller thought was the Wilcox sand but which later scientific investigation has shown to be a formation above the Wilcox. Wells in the vicinity of Okemah, Stroud and Cushing and in the intervening territory have encountered a series of brown or gray sandy dolomitic limsetones interstratified with some green shale and thin bedded sandstone members. This formation is referred to as the post-Wilcox Simpson and has a maximum thickness of 140 feet near Stroud. This formation occurs between the Viola limestone and the Wilcox sand. The post-Wilcox Simpson produces some oil and gas, but in small quantities and the oil is generally much lower in gravity than that found in the Wilcox sand. It is in this formation that water has been encountered and wells abandoned when the driller thought the formation was the Wilcox sand. Due to this fact, losses have occurred which amount to hundreds of thousands of dollars.

A striking feature of the Wilcox sand wells is that they have a great early production but they rapidly decline. The Wilcox sand wells have a short life as compared to wells that produce in other formations. It may be noted that at Seminole City which is the youngest Wilcox sand field, that out of 67 producing wells only 38 are Wilcox sand wells but 93 per cent of the oil of the field is from these Wilcox wells.

Depths Vary

The Wilcox tests that have been made have found a great variation in depths to the Wilcox horizon. The depths vary from 2000 feet to 5000 feet and all of the major producing areas found the sand at a depth between 4000 and 5000 feet. In the Bald Hill area near Okmulgee the Wilcox sand was found at 2175 feet and at Okmulgee it was found at a depth of 2950 feet. It may also be noted that at Seminole which is 55 miles southwest of Okmulgee that the Wilcox sand was found at an average depth of 4150 feet. In the northern part of Oklahoma the Wilcox was found at an average depth of 3590 feet in the Braman Pool and 4051 feet in the Tonkawa area. In the Garber pool is was found at 4340 feet. A well was drilled at Davenport which is about 40 miles north of Seminole that found the sand at 4700 feet.

Taking into account the fact that the Wilcox sand is found at a depth of 2950 feet at Okmulgee and at 4150 feet at Seminole, it shows that the sand deepens on an average of 20 feet to the mile to the southeast. At this rate, it shows that further southeast, say 100 miles, we would expect to find the sand at a depth between 6000 and 7000 feet. This is rather deep as compared with the past drilling in Oklahoma but it is thought that in the future the drilling will be carried on to this depth.

Tested Area Small

So far all of the Wilcox sand pools have been found within 140 miles of the contact line of the Wilcox sand with the Chattanooga shale as shown by the heavy line on the accompanying Oklahoma map of the Wilcox sand area. The Wewoka field, six miles from Seminole City, is farthest south and the farthest east is at Muskogee where some wells found the sand at a shallow depth as compared with other Wilcox pools.

In searching for the Wilcox the operators have a chance of discovering other producing formations before they get to the sand. In the case of the Seminole City field, nearly all of the wells found oil in the Hunton lime, which is a few hundred feet above the Wilcox horizon. In case they get no production when the Wilcox sand is reached, they have the satisfaction of knowing they can plug back to the Hunton lime and have a profitable well. At present three wells at Seminole have plugged back to the Hunton after they have found the Wilcox dry. In the Earlsboro field production is obtained from the Earlsboro sand which is found at a depth of 3500 feet and in two instances wells have drilled to the Wilcox sand and encountered water, so now they are getting oil in the shallower sand.

Wilcox wells in the best part of the Seminole have been bothered by an early encroachment of water which has cut down the production of these wells. The same thing happened in the early part of the Tonkawa, Garber and Braman pools and it did not ruin the field to any extent.

Texas Company Acquires Spindletop Interest

Houston — The Texas Company's entry into deep sand operations at Spindle Top was made early this week when the company took over the drilling obligation of the New Beaumont Oil Company on acreage lying about 3000 feet north of the southwest extension pool. Drilling of the Garrick No. 1 well, started late last spring by the New Beaumont Oil Company, has been taken over by The Texas Company, and the well was drilling November 30 at 3807 feet in hard sand and lime.

Although The Texas Company joined the buyers of deep sand production during the field's early flush in July, the company has not played a part in the production. In the event of production in the well now drilling both The Texas Company and the New Beaumont Oil Company will share in the crude. Johnson Brothers are drilling the well under contract.

It is interesting to see how much new equipment has been developed during the year, but this copy has a value higher than interest—it is valuable. Preserve your copy for future reference.

Crane-Upton County Production Goes to New High Level of 23,600 Barrels

San Angelo, Texas. — Production gains in Crane and Upton Counties during the past week sent the daily average output of these two counties to a new peak level of 23,600 barrels. This oil is being stored in the field and shipped out in tank cars by The Texas Company, Marland, Roxana, Southern Pipe Line Company while Humble has the only direct pipe line connection in the district. Upton County averaged 16,860 barrels daily, while Crane County contributed 6740 barrels daily average during the past week, including 4135 barrels produced by Gulf from six wells on the McElroy ranch in eastern Crane County.

Pecos County's lone oil producer is to be restored to active production this week after having been mudded in to case open hole in the Mid-Kansas & Transcontinental Oil Company's I. G. Yates shallow producer. This well is located in the eastern part of the county and near the Pecos River, and started flowing by heads October 28 from sandy-lime pay at 990-97 feet after striking the lime at 970 feet. The well flowed 130 barrels 29.6 oil during the 24 hours preceding the mudding of the hole on November 9. The hole was cased with a short string of 12½-inch casing, but a string of 10-inch with packer has since been set at 940 feet.

Marland Oil Company's T. E. Shirley 1, located in the southwest corner of section 10, Hurdle district of Upton County, blew in Thanksgiving day with a flush flow of 2000 barrels of 30.3 degree gravity pipe line oil from sandy-lime pay at 2090-97.7 feet, and gauged 1865 barrels during the 24 hours ending 7 a. m. November 28. This well logged the top of the salt at 490 feet, with a surface elevation of 2559 feet, and encountered the flush production much higher than was expected. The Texas Company's King 5, a west offset, swabbed and flowed 110 barrels without shot in pay at 2102-56 feet, and when deepened to 2165 feet one week later flowed 525 barrels daily. Gulf and Amerada hold offsets to Marland's big producer, while Simms Oil Company has let contract for the starting of its first test on 80 acres, located a short distance to the north.

West and north offsets to the Wentz Oil Corporation's wildcat producer on the Shirk farm, near Hurdle, were not fulfilling expectations early this week. Gulf's Shirk 1, a direct offset to the north, swabbed 85 barrels of 28.6 degree gravity oil from sandy-lime pay at 2290-2331 feet Saturday, and shut down to put on pump, while Johnson-McCamey and Atlantic's Shirk 1, swabbed 65 barrels daily at 2320-41 feet. The Wentz well averaged 220 barrels daily on pump last week after being in about two months from pay at 2272-2331 feet.

The Dixie Oil Company's A. S. Burleson 11, which extended the oil producing area in the Hurdle district about one and one-quarter miles to the southeast November 22, with an initial flow of 830 barrels of 29.1 degree gravity oil from top of pay at 2025 feet, was making 865 barrels Sunday. This well quit flowing on the second day after being completed, but responded to agitation with a greater flow. It is located 1650 feet south of the southeast corner of section 5, G. C. & S. F. survey, but in the John Nidever survey No. 2, abstract 749.

The Texon Oil & Land Company, pioneers of the Big Lake field, purchased three 80-acre tracts from the Republic Production Company near the Westbrook wildcat oil producer in Winkler County, paying $84,000 cash Texon is reported to have acquired the west half of the southwest quarter of section 45, block 26; west half of the southeast quarter of section 41, and the east half of the northeast quarter of section 32, both block B-5, Public School land. More than one million dollars was represented in deals reported in detail last issue around this 130 barrel flowing well from pay at 2965-3005 feet, including the sale of the well to the Southern Crude Oil Purchasing Company.

Louisiana Cyclone Causes Big Field Damage

Shreveport.—A cyclone, which swept through a portion of Haynesville field November 25, is reported to have caused damage estimated at approximately $1,000,000 in the field. Five persons were killed and several others injured, information from the field stated. Thirty-six derricks have been listed among the wrecked equipment, including 17 of the Ohio Oil Company, eight of the Gilliland Oil Company, two of the Humble, three of Houston Oil Company, and six of the Louisiana Oil & Refining Corporation. Others, not reported, are said to bring the total number of wrecked derricks to 50. The camp of Roxana Petroleum Corporation was practically demolished by the high winds.

Alsworth Brothers Open Another District Pool At 1022 Foot-Level

Houston—Alsworth Brothers added a new producing area to the Laredo district November 23, completing the Garza No. 2 wildcat for 10,000,000 cubic feet of gas and 15 barrels of crude of the regular Laredo district grade. Total depth of the well is 1022 1-2 feet, with five feet of producing sand, the location being at a higher point on the Reynosa Escarpment than the average producing levels in the territory. This is the fourteenth pool of either oil or gas in the Laredo district.

Location of the newly discovered pool is between five miles south of the Randado pool, Jim Hogg County, and bordering on the Jim Hogg-Zapata County line. The well is 150 feet from the north line and 1070 feet from the east line of Block 4, Survey 39.

Alsworth Brothers, independent operators in the Laredo district, are well protected, holding lease on approximately 2050 acres around the well. Simms Oil Company apparently has the second best chance at production in the pool, with several hundred acres bordering on the east of Alsworth Brothers' acreage. Humble Oil & Refining Company is protected on the south with a large block under lease. Vacuum Oil Company has considerable acreage about two miles to the west of production.

Location has been made by Alsworth Brothers for Garza No. 3, 150 feet from the northwest corner and 660 feet from the southwest corner of Block 5, Survey 39, and Garza No. 4, 150 feet from the northwest corner and 360 feet from the southwest corner of Block 5. Locations had not been made by other holders of possible productive acreage early this week.

Garza No. 1, the first test to be drilled in this immediate territory, was abandoned early in November by Alsworth Brothers at 2188 feet in sandy shale having passed an oil show at 1015 feet for deeper prospects. It made salt water at 2188 feet. The producer is an offset to the No. 1 test.

Casing was set in the No. 2 well at 1017 feet, and two and one-half feet of cap rock was penetrated before the sand was encountered.

Immediately after completion, the well was shut in until storage could be obtained. It is expected to increase materially when allowed to resume flowing.

Tulsa Engineers Meet

Tulsa—The Mid-Continent elections of the American Institute of Mining and Metallurgical Engineers and the American Society of Mechanical Engineers will hold a meeting Thursday, December 2, at 8: P. M. in the auditorium of the Municipal Building.

R. R. Brandenhaler, petroleum engineer of the U. S. Bureau of Mines, will present a paper on the "Back-Pressure Control in the Davenport Pool, Lincoln County, Oklahoma."

Stronger than a Drill Stem!
Fool Proof!
THE STANDARD COLLAPSIBLE ROTARY DRILL AND CORE BARREL
Sets New Records in Every Field—
—In SOMERSET FIELD this drill put down 1000 feet in 4½ days, when the fastest time heretofore with ordinary equipment had been 12 days.
—In the PANHANDLE "RED BED" this drill put down an offset well at a saving of 5 days drilling time, PLUS $380.25 in "Sharpening charges."
It Actually SAVES 25% to 40% of Usual Drilling Expense
SCIENTIFICALLY
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Blazing the Way—

—To a New Era of Economy in Drilling Oil Wells.

—Scientific selection of alloy-steels, coupled with scientific heat-treating in accurate laboratory furnaces, gives these tools of smaller dimension far greater strength and hardness than old-fashioned bulky bits that are fabricated to "average specifications."

So Simple that It's "Fool-Proof"

—The combination lowering and raising tool has been perfected until it will **NEVER LET GO** of the drill before cutters are fully expanded and securely locked in drill collar for drilling—and it will **ALWAYS** promptly engage the top of the drill, quickly collapse the cutters, and **NEVER LET GO** until the drill is brought to the derrick floor.

—Working **INSIDE** the drill stem, The Standard Collapsible Rotary Drill eliminates all necessity of pulling long strings of drill pipe, and requires but 20 to 30 minutes to change cutters.

Stronger Than a Drill Stem

—The most severe spudding, and hardest formations have failed to develop "drilling troubles" for this scientifically heat treated drill. Boulders in the well have actually twisted off drill stems without damaging this drill, because a burly drill-collar reinforces the collapsible cutters and stands the most severe abuse.

Write Today for Full Information

Reamer Attachment

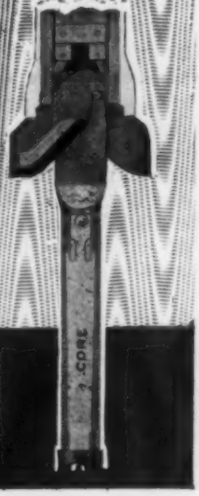
—Serves the triple purpose of keeping hole full gauge, prevents wobbling of the drill stem, and assisted by patented manner of installing cutters keeps the hole straight.

Collapsible Cutters

—Special case-hardening process in our modern electric laboratory furnaces places diamond-hard cutting surface over a tough core without brittleness. Cost less **NEW** than resharpening ordinary bits.

Core Barrel

—Can be substituted and perfect cores taken in 30 to 60 minutes. With this equipment you can "core everything" and take no chances of passing a paying strata.



ROTARY DRILL CO.

O. M. CARTER, PRESIDENT

GEO. S. DURANT, SECRETARY

New Wilbarger County Discovery

Wichita Falls, Texas.—An active drilling campaign is in store for the acreage surrounding the wildcat oil producer brought in November 20 in western Wilbarger County by Roxana and the Murchison-Fain Oil Company with an initial production of 200 barrels of 40 gravity oil from sand pay at 1480-84½ feet. This well is located on the Fluhman 136-acre lease in section 30, and about three miles due west of the original South Vernon field.

Tubing and rods were being placed in the hole early this week to pump the Fluhman discovery well, while a pipe line connection has been made by The Texas Pipe Line Company. Roxana and Murchison-Fain Oil Company are 50-50 on a total of 219 acres surrounding this producer, while each hold individual leases. Others holding close in acreage are Gulf, Atlantic Oil Producing Company, Humble and Texas Company. Five dry holes in adjoining sections may prove to be the dead line on the producing area, but most of these deep failures registered favorable showings of oil and gas when drilling.

The discovery of oil on the Fluhman land was preceded by a good show of oil being found in the Lippard Oil Company's wildcat test, located about a half mile to the south, in sandy pay at 1798 feet in September, 1925. Murchison-Fain Oil Company's Streit 1, located in section 19 and about one mile west of the producer, developed a good show of oil in broken sand at 1310-23 and 1488-98 feet, then tested five barrels of oil daily in sand at 1720-29 feet before being deepened to 2675 feet and plugged in June, 1925. In view of the fact that the 1700-foot sand pay registered favorably in tests drilled to the south and west of the Fluhman wildcat producers, it is generally believed that the sand will be productive on the Fluhman lease.

A standard rig is being set up on the wildcat oil producer found by N. D. Goldsmith et al last week on the J. R. Wilson farm in section 162, Young County, swabbing 100 barrels of oil daily from broken sand pay at 944-56 feet and oil sand at 987-90 feet. This well is located about one-half mile south of shallow production, and is southwest of Olney.

Humble Oil & Refining Company's semi-wildcat test on the M. K. Graham farm near the Woodson field in southeast Throckmorton County, hit a stray sand pay at 1724-25 feet last week and flowed 800 barrels of 41 gravity oil during the first 24 hours although partially pinched.

S. F. Shaw, consulting engineer specializing on air and gas lift, with headquarters in San Antonio, is making a trip through the Gulf Coast country, investigating air lift conditions. He expectsto be in Seminole during December and January.

Busy Winter for Steel Mills Supplying Pipe For Lines Building in Texas

Houston.—Pipe line workmen, construction companies and steel mills in the East are primed for a busy period over the balance of the winter as result of the 10-inch crude lines being started to the Texas Panhandle district from Central West Texas by Gulf, Humble and Magnolia, as was announced in detail last week.

Deliveries on pipe from the mills will probably determine the completion date of these new carriers, as construction forces and other materials are vailable in adequate quantities to permit fast work on building the lines. The mills have been shipping from reserve stocks of tubular goods during the past summer to meet the pipe requirements of drilling wells in the Texas Panhandle and other active Mid-Continent fields, while during this period a number of long oil and gas lines have been under construction, including Prairie's eight-inch welded line from Ringling, Oklahoma, to the Texas Panhandle, a distance of about 200 miles; two large gas lines from North Texas to the Texas Panhandle by the Lone Star Gas Company and the Upham Gas Company; Standard of Louisiana's big gas line to its Baton Rouge refinery; Magnolia's eight-inch welded lines from Smackover to Beaumont, and Mirando to Luling; and Humble's various loops on its West Texas trunk line, including an extension of the Big Lake unit to McCamey. Besides these major pipe line projects, the Seminole field in Oklahoma has caused all the carriers serving that field to parallel original lines with larger carriers.

Magnolia was promised about 40 miles of 10-inch welded pipe within three weeks after the order for pipe was placed, but the balance of the order will not be available until the product can be manufactured, while the final shipment of pipe will be some time in February as the earliest. Gulf and Humble are also to be handicapped on pipe delivery to a certain extent, although there is a greater production on the 20-foot screw joint pipe to be used by these two concerns. Magnolia is to use 40-foot lengths, and the joints are to be welded by Magnolia's regular welding crews, who are being moved up from the Luling-Mirando extension line, which was only recently completed.

To Work Joint Line

In order to get quicker relief to producers in the Panhandle, an agreement has been made by the Gulf and Magnolia to tie up their respective lines at the halfway point between the Texas Panhandle and the Ranger-Olden district in Eastland County and handle their crude jointly. This arrangement will permit movement of Panhandle crude much earlier, and can be accomplished without a burdensome expense, since both lines originate and terminate within 20 miles of each other. The plan is for Magnolia to start building out of Olden with a 10-inch welded line, and Gulf will head southeast across the Texas plains with a 10-inch line to meet Magnolia near the town of Truscott, Knox County.

Pump station sites for Magnolia and Gulf's lines were being purchased early this week, and also the point selected for joining of the two lines.

Although Gulf and Magnolia plan to complete their respective lines on through the entire distance between the Texas Panhandle and Eastland County next spring and summer, such plans could be cancelled in event oil developments in the Texas Panhandle during the next five months suffer adversely.

Magnolia will deliver its Panhandle crude to Gulf's pump station at Panhandle, Carson County, from Magnolia's tank farm at Kingsmill, a distance of about 20 miles. Magnolia will lay an eight-inch line to make this connection. Gulf will pump the crude to Truscott, where the oil will be received by Magnolia's unit of the trunk line, for delivery to the Ranger-Olden district. Magnolia will pump to its Conley tank farm near Olden, or to Gulf's farm and pump station near Ranger. Both companies will move about 15,000 barrels daily each on this arrangement, accepting Carson, Hutchinson and Gray County crudes as common stocks, with on effort being made to separate them.

Magnolia's line will be insulated with a priming coat of paint, followed by a thick application of specially prepared cold adhesive dope, and before this second coating is dry the pipe is wrapped with paper. A second application of cold adhesive dope is then applied to the paper to insure water proof protection for the pipe.

Kevin-Sunburst Extension Consistent Producer

Great Falls, Mont.—The remarkable consistency of production in the Flickertail extension of the Kevin-Sunburst field continues to hold the spotlight. Two new wells were completed during the past week and both were good producers. Practically every well completed since the discovery of the pool has been as large or larger than the discovery well itself. The Bottineau-Minot No. 3, the newest completion, is actually producing at the rate of 200 barrels daily. The gas pressure is good and the well flows occasionally. One year ago leases in the district were sold at very small prices. Since the discovery of oil, acreage is commanding very fancy prices. Independent interests chiefly control the extension, which lies to the east of the main Kevin-Sunburst pool.

Panhandle Field Work Curtailed For Winter

Peak production for the year believed to be passed as most active operators slow down on their drilling

By H. H. KING
Staff Representative

Amarillo, Texas—The Texas Panhandle district is showing a substantial decline in field work due to most of the major operators in the district having curtailed their drilling until next spring. The peak production of 166,620 barrels from 678 producing wells registered several weeks ago is also believed to be the high mark on daily output for this year, while the district contributed a production decline of 3,990 barrels during the past week.

Gulf and Marland have slowed down their operations in the Panhandle district, while Phillips Petroleum Company, Prairie, Skelly, Dixon Creek and other large operators have likewise reduced their operations in recent weeks. Prairie is carrying more than a half dozen tests on its current drilling report as being shut down on top of the pay in Hutchinson County due to lack of pipe line capacity, but Prairie is active in making new connections to outside leases.

Fewer rigs were running in the Panhandle district at the close of last week than has been the case since the latter part of June. The last week in September was the busiest period in the Texas Panhandle when a total of 396 cable and rotary rigs were at work. There were 313 rigs in operation at the close of last week, with a total of 590 operations listed on the complete report. Drilling reports compiled during the last week in August showed the greatest number of operations listed, with a total of 673.

Since the Texas Panhandle district is to be well served with trunk lines next spring, the operators are looking forward to much better prices for their crude, and are less inclined to dispose of their current production below posted prices. The prospect of better prices is also having a tendency to retard drilling on inside locations, since the present $1.25 price in Carson, Hutchinson and Wheeler Counties is considered below the current value of the oil.

Transportation Delay.

Delay in getting prompt return of empty tank cars is holding down the movement of crude from the Texas Panhandle district rather than congestion on the Santa Fe's Isom-Borger spur line, and during the past week the tank car movement of crude amounted to 90,800 barrels daily average, as compared to about 85,200 barrels daily average during the week previous. This movement amounts to more than one-half of the current production, and the surplus can be comfortably handled by the four major companies at work on direct pipe line outlets.

The Roxana-Bryan pool in northeastern Carson County is the next virgin area in the Panhandle to be reckoned with, and about 37 operations are underway or starting in this area, including 17 drilling tests. The Munn-McAuley Oil Company's E. F. Bryan 1, located on an 80-acre lease in section 107 and about one-half mile northwest of the Roxana discovery well, hit the top of the oil pay early this week at 3128 feet, with a surface elevation of 3245 feet. Storage is being erected, and the well will be drilled in before the close of the week. Roxana's Bryan 1-B, located near the above test, is the next completion due, but has been delayed by a fishing job at 3035 feet.

Marland Oil Company's first test in the bed of the Red River in Hutchinson County has been ordered plugged at 3275 feet after failing to make an oil well. Considerable gas was cased off in the big lime horizon. Marland is building rig for a second test in the river bed. Currie Brothers and J. R. Phillips' Smith 3, located on an 80-acre lease in section 14, was shot with 800 quarts at 2878-2990 feet, but failed to flow after blowing the bridge out of the hole. Two previous completions on this lease were shot with record sized shots with good success. F. E. Kistler et al's Johnson 1, section 21, was flowing 60 barrels per hour early this week at 2895-2946 feet.

Hutchinson County's oldest drilling test encountered a show of oil while making 30 million cubic feet of gas. This well is being drilled by the Tex-O Oil Company on the Johnson ranch, section 1, Mrs. Tumlinson survey, and was spudded during the third week in June, 1924. The well encountered a seven million flow of gas at 1160-65 feet, with a surface elevation of 3145 feet in October, 1924, and was shut down for about seven months at this depth. The well is now spraying oil at 2951-63 feet, and promises to extend the oil producing area in Hutchinson County further west. Storage has been ordered to drill in shortly.

Deeper drilling the past week increased the production of the Noab Oil & Gas Company's wildcat oil producer on the J. S. Morse ranch in eastern Gray County to about 50 barrels of 39 gravity oil daily from granite wash pay at 2721 feet. This well opens up a new producing area between the Wilcox-Pampa and Shamrock fields. Jules Constantine et al's wildcat test on the Dial ranch, located two miles southwest of the Noab producer, encountered granite at 2660 feet, with a surface elevation of 2844 feet.

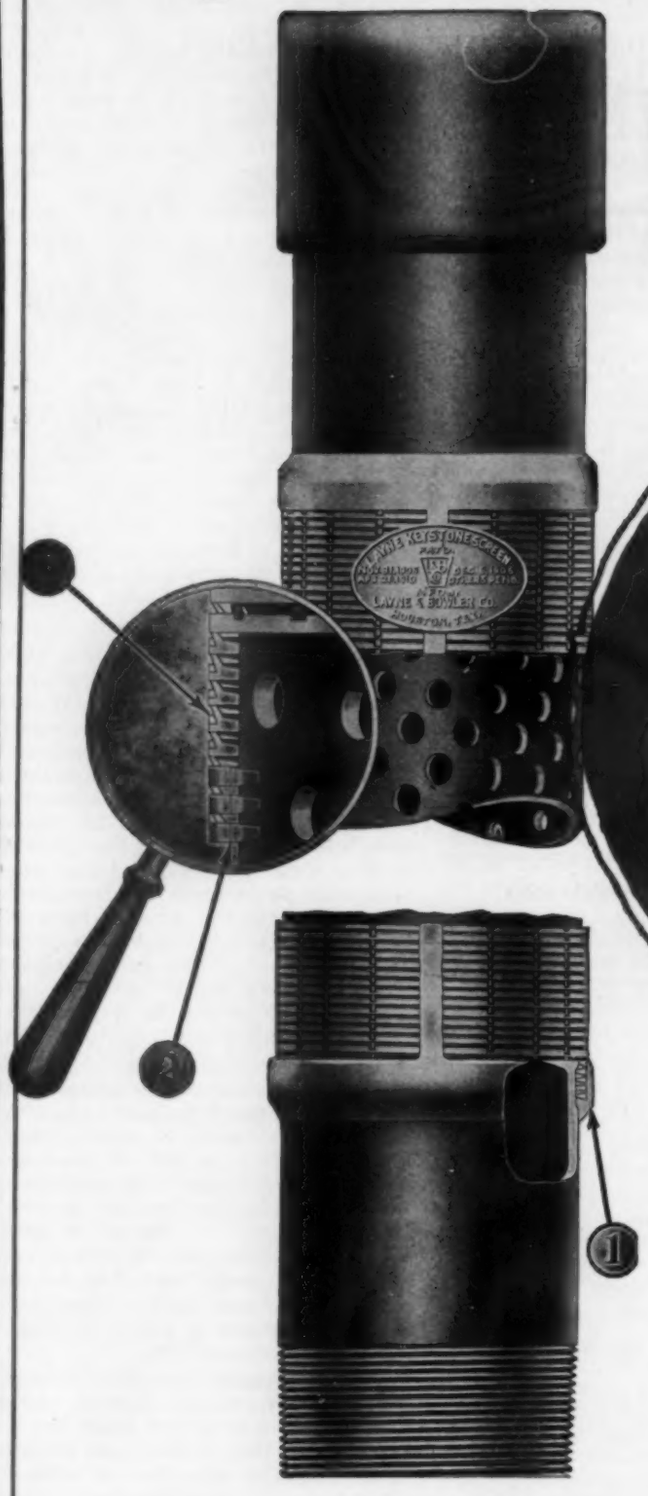
In the Wilcox-Pampa field, Pure Oil Company's Benton 3 swabbed at the rate of 20 barrels per hour for six hours after shot of 80 quarts at 3060-3124 feet, with a surface elevation of 3152 feet. Phillips Petroleum Company's H. M. Davis 1 has been worked over and flowed 1,000 barrels of pipe line oil at 3125 feet, with a surface elevation of 3226 feet. Prairie-Shamrock Petroleum Company et al's Worley-Reynolds 6, flowed 410 barrels Sunday from granite wash pay at 3030-50 feet.

PANHANDLE OPERATIONS

Amarillo, Texas.—Condensed summary of field operations in the Texas Panhandle district at the close of week ending November 27, is listed below by counties, with comparative totals for the previous week:

	Completions	Active Tests	Shut Downs	Rigs and Derricks	Locations	Totals
Armstrong Co.	..	1	1	..	..	2
Briscoe Co.	..	..	..	..	1	1
Carson Co.	..	26	5	18	5	54
Castro Co.	..	1	..	1	..	2
Childress Co.	..	1	..	1	..	2
Cochran Co.	..	1	..	..	..	1
Cochran Co.	..	..	1	..	..	1
Collingsworth Co.	..	1	1	1	2	5
Dallam Co.	..	2	1	..	..	3
Deaf Smith Co.	..	..	..	2	..	2
Donley Co.	..	1	..	..	..	1
Gray Co.	4	58	13	12	3	90
Hansford Co.	..	1	2	..	..	3
Hartley Co.	..	4	5	..	..	9
Hemphill Co.	..	3	2	..	1	6
Hutchinson Co.	18	181	40	61	28	328
Lamb Co.	..	1	..	..	..	1
Lipscomb Co.	..	..	1	..	..	1
Moore Co.	..	8	4	1	..	13
Motley Co.	..	..	..	1	..	1
Ochiltree Co.	..	..	4	1	..	5
Oldham Co.	..	..	..	1	..	1
Parmer Co.	..	1	..	..	..	1
Potter Co.	..	3	1	1	..	5
Randall Co.	..	1	..	..	..	1
Roberts Co.	..	1	3	3	..	7
Sherman Co.	..	1	..	1	..	2
Swisher Co.	..	..	1	..	..	1
Wheeler Co.	..	11	5	4	..	20
Totals	22	307	90	109	40	568
Total for previous week	31	313	86	117	43	590

A Quarter of a Century



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3 Reasons Why Layne Screens Are Superior

1. Pipe slightly recessed, wire wrapped in recess and sweated to pipe, forming a solid collar on both ends.
2. Keystone wire, accurately wound on pipe by our patented winding machine.
3. Lugs accurately sized and placed in vertical alignment under heavy side pressure; this insures accurate spacing between the wires and prevents displacement of the wire on the perforated pipe.

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—and economy are assured hundreds of experienced operators who are guarding their production

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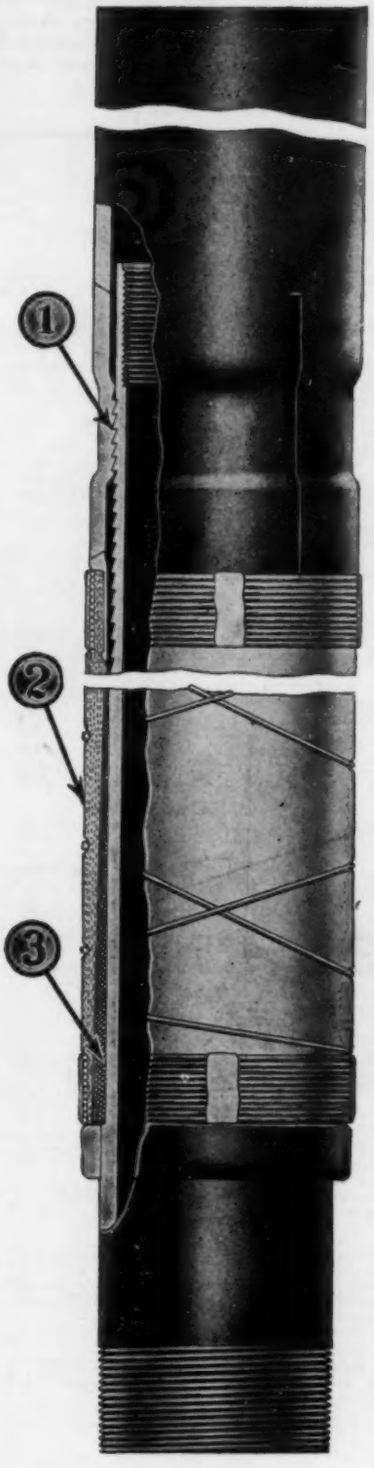

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Index to New and Improved Field Equipment Section

The following concerns have brought out new or improved equipment for use in the producing and pipe line branches of the oil industry during the past year. Descriptions of these new products will be found in the Special Equipment Section which begins following page 96. For easy reference an additional index, according to classification of product will also be found below. (Advertisements in this section have been listed in the regular advertiser's Index on Page 51.)

A

The Ac-Me Company 266
Acme Fishing Tool Company..... 26
Air Reduction Sales Company 135
Ajax Iron Works 6-11
Alexander Milburn Company, The.....286
Amdyco Corporation, The 78
American Iron & Machine Works 266
Robert N. Atmore Company, The..... 45
Axelson Machine Company 103-104

B

B. & A. Specialty Company.....16f-16g
B. & B. Pipe Shops Corporation..... 51
Bacharach Industrial Instrument Company 135
Baker Casing Shoe Company 134
Baldwin Chain & Manufacturing Co., The.. 84
Barco Manufacturing Company.....134-135
Beard, Henry C. 282
Beard Foundry & Machine Company, The 133
Beaumont Iron Works Company 16a-16b-16c-16e
Becker Specialty Company 36
Bessemer Gas Engine Company..58, 16-c, 16-d
Blanton Sand Trap Company.....286
Boiler Engineering Company 282
Bovaird Supply Company, The.....264
Boykin Machinery & Supply Company..130-131
Brace, R. Lyle 90
Braden Steel & Winch Company, The..... 28
Bradford Motor Works 266
Bridgeport Machine Company..... 40
Brown Tool Company, Inc..... 54
Brooks Machine Company 16e
Buckeye Traction Ditcher Company.....108
Buda Company, The 268
Buffalo Gasolene Motor Company 268
Burns Tool Company 130
Burt Corporation 16g
Butler Manufacturing Company 260

C

Campbell, J. A. 133
Carter-Lockard Company 275
Chain Belt Company 90
Chicago Pneumatic Tool Company, The..11-12
Chicago Steel and Wire Company..... 59
Clark Machine Company, The..... 13
Climax Engineering Company 280
Close-to-Nature Company, The 286
Cook Motor Company, The.....275
Cunningham Company, The 288

D

D. & B. Pump and Supply Company..... 45
Davis and Kuhns 262
Davis Regulator Company, G. M..... 59
Denny, W. P. 250
Domestic Engine and Pump Company.....276
Duff Manufacturing Company 59
Dunn Manufacturing Company 81

E

Eagle-Picher Lead Company 280
Economy Electric Lantern Company.....282
Emery and Company, B. V. 33
Emsco Derrick and Equipment Company... 50
Erickson Pattern Works 50

F

Fairbanks-Morse and Company 54
Farley Machine Works 264
Federated Metals Corporation 138
Fireproof Tank Cover and Condenser Co...250
Foamite-Childs Corporation, The 74
Foos Gas Engine Company 16f
Ford Specialty Company 37
Frick-Reid Supply Company.....82-86-16h
Fuller Machine and Forge Works.....132

G

Garber Tool and Supply Company.....259
Gardner Governor Company, The..... 30
Garlock Packing Company, The..... 13
Gaso Pump and Burner Manufacturing Co. 104
General Electric Company 105
General Tool Company 136
Goble, B. G. 66
Graham Brothers 36
Guiberson Corporation, The 84
Gulf Coast Machine and Supply Company.. 45
Gulf Supply Company 280
Gurley, W. & L. E. 248

H

Hall-Will, Inc. 288
Halliburton Oil Well Cementing Company.. 16
Harrisburg Pipe & Pipe Bending Company of Texas, The 46
Hercules Tool Company 26
Hoovens, Owens, Rentschaler Company, The 84
Hough Manufacturing Co., Charles N.....16f
Houston Pump and Supply Company..... 12
Hudson Wire and Iron Company, The..... 30
Hufford Electric Company..... 75
Hughes Tool Company 48

I

Inferno Company, The 284
International Derrick and Equipment Co... 90

J

Jensen Brothers Manufacturing Company... 13

K

Kansas City Hay Press and Manufacturing Company 32
Keltner Manufacturing Company 260

L

Landis Machine Company, The 112
Larkin and Company 16h
Layne and Bowler Company, The..... 28
Leland Truck Equipment Company..... 81
Leonard, P. J. 130
Liberty Manufacturing Company.....75-78
Loomis Oil Well Control Company.....104
Lucey Manufacturing Corporation 120
Lufkin Foundry and Machine Company....120

M

M. & K. Pump and Specialty Company....262
Magie, M. H. 75
Maloney Tank Company, The 20
Manzel Brothers 12
Marco Light and Power Corporation..... 50
Marion Machine Foundry and Supply Co. 24-26
Mission Machine and Supply Company....128
Morris, W. J. 74
MacClatchie Manufacturing Company.....259
McEvoy and Company, J. H. 259

N

Nabors Company, W. C. 37
National Pigments and Chemical Company.. 13
National Supply Company.....121-124-128
National Transit Pump and Machine Co.117-120
Neilson Manufacturing Company, A. H..... 46
"New Way" Motor Company.....259
Novo Engine Company 284
Nuttall Company, The R. D.....86-88
Nye Tool and Machine Works.....16c

O

O'Bannon Company, Walter 27
Oil City Iron Works 40

O—Continued

Oilwell Accessories Company 12-20-24
Oil Well Supply Company, The.....18-20
Oklahoma Engineering and Foundry Company, The 67
Oklahoma Iron Works 58-16h

P

P. & H. Valve Company, The.....250
Painter Bundy Tool Company 70
Pattin Brothers 132
Peerless Supply Company 54
Petrolia Supply Company 46
Pickering Governor Company, The 70
Portable Rotary Rig Company 33
Pyle-National Company, The 276

R

Red Devil Oil Burner Company 16f
Regan Forge and Engineering Company...108

S

Saunders Brothers Machine Shop 66-262
Schaffer Company, J. E. 20
Shaffer Specialty Company 38
Simplex Equipment Company 62
Skinner Company, M. B. 117
Smith Company, E. M. 268
Smith Manufacturing Company, H. C. 129-130-16g
Smith, W. C. 37
Smith Separator Company 16e-278-33
Sonner Gas Burner Company, P. J. 70
Specialty Sales Company 54
Spencer Trailer Company 81
Standard Collapsible Rotary Drill Company 128
Star Drilling Machine Company, The 81
Stearns-Roger Manufacturing Company, The 133
Steiner, George 32
Stoody Company, The 66
Stuebing-Cowan Company, The 117
Sullivan Machinery Company, The 131-132
Sullivan Company, The 32
Sun Shipbuilding and Dry Dock Company 59

T

Templeton Kenly and Company, Ltd. 275
Timken Roller Bearing Company 51
Tips Engine Works, The 16

U

U. S. Tool Company 278
United Iron Works 48

V

Victaulic Company of America 51
Volz Engineering Equipment Company ... 16h

W

W-K-M Company, Inc. 244-246-248
Wagner Electric Corporation 136
John Waldron Corporation 74
Ward Chemical Company 16g
Waukesha Motor Company 88
Western Machinery Company 62
Wichita Falls Motor Company 116
Wilson and Willard Manufacturing Company 88
J. H. Williams and Company 78
Williams Gauge Company, The 62
Wright Machine Company 67-70

Y

Yale and Towne Manufacturing Company . 78
Young Engine Corporation, W. T. 116

INDEX TO PRODUCTS

Acetylene Generators—
Brooks Machine Company 16e

Air-Cooled Engines
"New Way" Motor Company ..259

Air Compressors—
Chicago Pneumatic Tool Company, The 11
General Electric Company ...105

Air Compressors, portable—
Sullivan Machinery Company, The 131-132

Alidades—
Gurley, W. & L. E. 248

Babbitt—
Federated Metal Corporation..133

Back Fillers—
Buckey Traction Ditcher Co..108

Back Pressure Valves—
B. & A. Specialty Company..16g

Bailers—
J. H. McEvoy & Co.....259

Bailer Bottoms—
Baker Casing Shoe Company..134

Bailing Machines—
W. T. Young Engine Corp....116

Balls and Seats—
Charles N. Hough Mfg. Co....16f

Ball and Seat Valves—
Specialty Sales Company..... 54

Ball Bearing Hooks—
Beaumont Iron Works Co.....16c

Ball Bearing Swabs—
The Oil Well Supply Company. 20

Ball Swivel Wrenches—
Becker Specialty Company.... 36

Barium Sulphate—
National Pigments and Chemical Company 13

Beam Hangers—
National Supply Company.....121

Bearings, Roller—
Timken Roller Bearing Co.... 51

Belt Stretchers—
Frick-Reid Supply Company.. 82

Belt Tighteners—
National Supply Company.....124

Bits—
Bridgeport Machine Company. 40
Oklahoma Iron Works.....16h

Bits, Disc—
Bridgeport Machine Company. 40
Hughes Tool Company 48
U. S. Tool Company.....278

Bits, Rock—
Bridgeport Machine Company.. 40
Hughes Tool Company 48
Saunders Bros. Machine Shop 66

Bit, Rotary—
Painter-Bundy Tool Company. 70

Boiler Feed Water Control—
Voltz Engineering Equipment Company 16h

Bradenheads—
Gulf Coast Machine & Supply Company 45

Bulldozer—
W-K-M Company, Inc.....248

Bull Wheels, Steel—
Marion Machine Foundry and Supply Company 24

Bull Wheel Spools—
Marian Machine Foundry and Supply Company 24

Burners, Oil—
H. C. Smith Mfg. Co.....129

Bushing Stub Plungers—
D. & B. Pump and Supply Co. 45

Cable Tighteners—
W-K-M Company, Inc.....244

Cable Tool Core Barrels—
Baker Casing Shoe Company..134

Cable Tool Power Units—
Climax Engineering Company..280

Carburetors—
Portable Rotary Rig Company 33
Voltz Engineering Equipment Company 16h

Casing Elevator, Slip Ring—
The Oil Well Supply Company 18

Cat Line Spool—
Beaumont Iron Works Co....16c

Chains, Drilling—
The Baldwin Chain and Manufacturing Company 84
Chain Belt Company 90

Clamps, Saddle—
M. B. Skinner Company.....117

Cleaners, Surface—
Liberty Manufacturing Co....75-78

Clean Out Tools—
Becker Specialty Company 36
The Stearns-Roger Mfg. Co....133

Compressors—
Bessemer Gas Engine Co....58-16d

Compressors, Vertical, Power-Driven—
The Gardner Governor Company 30

Compressor Rod Packing—
The Garlock Packing Co..... 13

Condenser and Tank Covers—
Fireproof Tank Cover and Condenser Company 250

Core Barrels—
Oil City Iron Works..... 40

Core Drills—
Gulf Coast Machine and Supply Company 45
W-K-M Company, Inc.....244-246

Core Drilling Outfits—
The Sullivan Machinery Co....131

Counterbalance—
Beaumont Iron Works Co....16c
Lufkin Foundry and Machine Company 120

Cutting Torches—
The Alexander Milburn Co....286

Derricks—
The Braden Steel and Winch Company 28
Emsco Derrick and Equipment Company 50

Derrick Hammers, Steam—
The Oil Well Supply Co..... 20

Derrick Stoves—
Erickson Pattern Works..... 50

Diesel Engines—
Bessemer Gas Engine Co.....16c
The Chicago Pneumatic Tool Company 11
Foos Gas Engine Company....16f
The Hoovens, Owens, Rentschler Company 84

Diesel Type Engines—
The Tips Engine Works..... 16

Draw Works—
Beaumont Iron Works Co....16a
Boykin Machinery and Supply Company 130-131
Portable Rotary Rig Company 33

Draw Works Braces—
Beaumont Iron Works Co....16a

Drill Collars, Rotary—
Standard Collapsible Rotary Drill Company 128

Drilling Clutches—
Portable Rotary Rig Co..... 33

Drilling Machines—
The Star Drilling Machine Co. 81

Drilling Outfits—
Buffalo Gasoline Motor Co....268

Drilling Outfits, Portable—
R. Lyle Brace 90

Drilling Units, Cable Tool—
Waukesha Motor Company.... 88

Drill Pipe Collars—
U. S. Tool Company 278

Eccentric Straps—
H. C. Smith Manufacturing Co.129
H. C. Smith Manufacturing Co.130

Elevators, Casing and Tubing—
Dunn Manufacturing Co..... 81

Engines, Drilling—
Lucey Manufacturing Corp....120
W. T. Young Engine Corp....116

Drilling Engines, Single Cylinder—
Ajax Iron Works 6

Drilling Engines, Twin—
Ajax Iron Works 6

Electric Plants—
The Cook Motor Company....275

Engines, Gas—
Frick-Reid Supply Company.. 82

Engines, Gas or Gasoline—
Wright Machine Company...67-70

Engines, Oilfield—
Bessemer Gas Engine Co.....16d

Expansion Pistons—
W-K-M Company, Inc. 246

Firing Controls—
The Inferno Company 284

Fishing Jars, Rotary—
General Tool Company 136

Flash Light Lanterns—
Economy Electric Lantern Co.282

Flexible Couplings—
American Iron and Machine Works 266

Flow Beans—
The Robert N. Atmore Co.... 45

Foam Generators—
The Amdyco Corporation 78

Force Feed Lubricator—
Manzel Brothers 12

Force Pumps—
Domestic Engine and Pump Co.276

Gas Burners—
Garber Tool and Supply Co...259
H. C. Smith Manufacturing Co.129
P. J. Sonner Gas Burner Co.. 70

Gas-Oil Burner—
Red Devil Oil Burner Co.....16f

Gas Cleaners—
The Ac-Me Company 266

Gas Compressors—
National Transit Pump and Machine Company 117-120

Gasoline-Gas Engines—
Portable Rotary Rig Co..... 33

Gears, Pumping—
National Supply Company..121-124

Generators—
The Buda Company 268

Grease Tubes—
Fairbanks-Morse & Company.. 54

Grinders—
The Chicago Pneumatic Tool Company 11

Grips, Polish Rod—
National Supply Company 121

Goggles—
Carter-Lockard Company 275

Governors—
The Pickering Governor Co.... 70

Heavy Duty Winches—
The Clark Machine Company.. 13

Hoists—
Keltner Manufacturing Co....260
Novo Engine Company.....284
Shaffer Specialty Company.... 38
Yale & Towne Mfg. Co..... 78

Hoists, Bull—
International Derrick & Equipment Company 90

Hoisting Units—
Beaumont Iron Works Co....16b

Hubs, Eccentric—
H. C. Smith Manufacturing Co.130

Hydraulic Motors—
W. P. Denny 250

Iron Oxide—
Ward Chemical Company 16g

Jacks—
B. G. Goble 66
Jensen Brothers Mfg. Co..... 13
Oilwell Accessories Company.. 12
Oilwell Accessories Corp....20-24

Jack, Balanced Pumping—
The Kansas City Hay Press and Manufacturing Company 32

Jack (Pull Back Pump)—
Baker Casing Shoe Company..134

Jacks, Lifting—
Duff Manufacturing Company. 59
Templeton Kenly & Co., Ltd..275

Joints, Tubing—
B. & B. Pipe Shops Corp.... 51

Key Pullers—
Marion Machine Foundry and Supply Company 24

Lift Truck Platforms—
The Stuebing-Cowan Co.....117

Lighting Generators—
The Pyle-National Company ..276
Marco Light and Power Corp.. 50

Lighting Generators, Vertical—
Becker Specialty Company ...36

Line Controls—
H. C. Smith Manufacturing Co.129

Liners—
Bradford Motor Works 266

Liner Barrels—
The Oil Well Supply Company 18

Liner Pullers—
H. C. Smith Manufacturing Co.129

Long Stroke Pumps—
Farly Machine Works 264

Lubricators—
Ajax Iron Works 6

Map Holders—
W. J. Morris 74

Measuring Device—
Halliburton Oil Well Cementing Company 16

Metal Alloys—
Eagle-Picher Lead Company .280

Metal Buildings—
The Braden Steel and Winch Company 28
Butler Manufacturing Company 260
Marion Machine Foundry and Supply Company 26

Metal Boiler Treatments—
Frick-Reid Supply Company .. 82

Meters, Carbon Dioxide—
Bacharach Industrial Instrument Company 135

Meters, Orifice—
G. M. Davis Regulator Co.... 59

Mixing Chambers, Foamite—
The Foamite-Childs Corporation 74

Motion Builders—
Oklahoma Iron Works 58

Motors, Oil Field—
General Electric Company 105

Mouse Traps—
D. & B. Pump and Supply Co. 45

Mud Hog Pump Inserts—
Gulf Supply Company 280

Mud Pumps, Super-booster—
The Gardner Governor Co. .. 30

Nipples and Spiders—
Kansas City Hay Press and Manufacturing Company 32

Oil Field Trucks—
Graham Borthers 36

Oil Savers—
The Guiberson Corporation ... 84

Overshots—
American Iron and Machine Works 266

Oversize Hydraulic Valves—
Houston Pump and Supply Co. 12

Packers, Lead Wool—
The Layne and Bowler Co. .. 28

Pick-Up Irons—
Shaffer Specialty Company ... 38

Pipe Joints—
Smith Separator Company 33
Victaulic Company of America 51

Pipe Laying Booms—
W-K-M Company, Inc. 246

Pipe Machines, Portable—
Hall-Will, Inc., ...288

Pipe Machines, Stationary—
Hall, Will, Inc 288

Pipe Straightening Machine—
W-K-M Company, Inc. 246

Pistons—
Mission Machine and Supply Co. 128

Pitmans—
Davis & Kuhns 262

Plug Valves—
Barco Manufacturing Co. ..134-135

Plungers—
Axelson Machine Company ..103

Plungers, Mud-Hog Pump—
Sun Shipbuilding and Dry Dock Company 59

Plunger Pumps—
M. & K. Pump and Specialty Company 262

Portable Canvas Houses—
The Close-to-Nature Company..286

Portable Reamers—
The Chicago Pneumatic Tool Company 12

Power Units—
The Buda Company 268

Preheaters—
The Alexander Milburn Co. ..286

Production Boosters—
Regan Forge and Engineering Company 108

Pull Down Rigs—
Hughes Tool Company 48

Pulling Machines—
W. T. Young Engine Corporation 116

Pulling Units, Power—
John Waldron Corporation 74

Pumps—
Axelson Machine Company 104

Pumps, Deep Well—
Western Machinery Company 62

Pumps, Enclosed Type, Power Driven—
The Gardner Governor Co. ... 30

Pumps, Portable—
Smith Separator Company 278

Pumps, Slush—
National Supply Company 128

Pumping Attachments, Long Stroke—
National Supply Company 124-128

Pumping Plants, Portable—
Gaso Pump and Burner Manufacturing Company 104

Pumping Units—
The Oklahoma Engineering and Foundry Company 67

Pumping Units, Hydraulic—
Frick-Reid Supply Company .. 86

Pumping Units, Portable—
Novo Engine Company 284

Pump Valves—
The Williams Gauge Company 62

Pumping Powers—
The Pattin Brothers 132
Marion Machine Foundry and Supply Company 24

Pumping Units—
The Cook Motor Company 275

Pumping Units, Centrifugal—
The Cook Motor Co.....275

Putty Oilfield—
The Sullivan Company 32

Reamers—
Bridgeport Machine Company . 40

Reamers, Cleaning Out—
Hufford Electric Company ... 75

Reduction Gears—
The R. D. Nuttall Company 86-88

Reduction Gear Units—
Wagner Electric Corporation .136

Rigs, Reverse—
Frick-Reid Supply Company ...82

Rippers—
The Beard Foundry and Machine Company 133

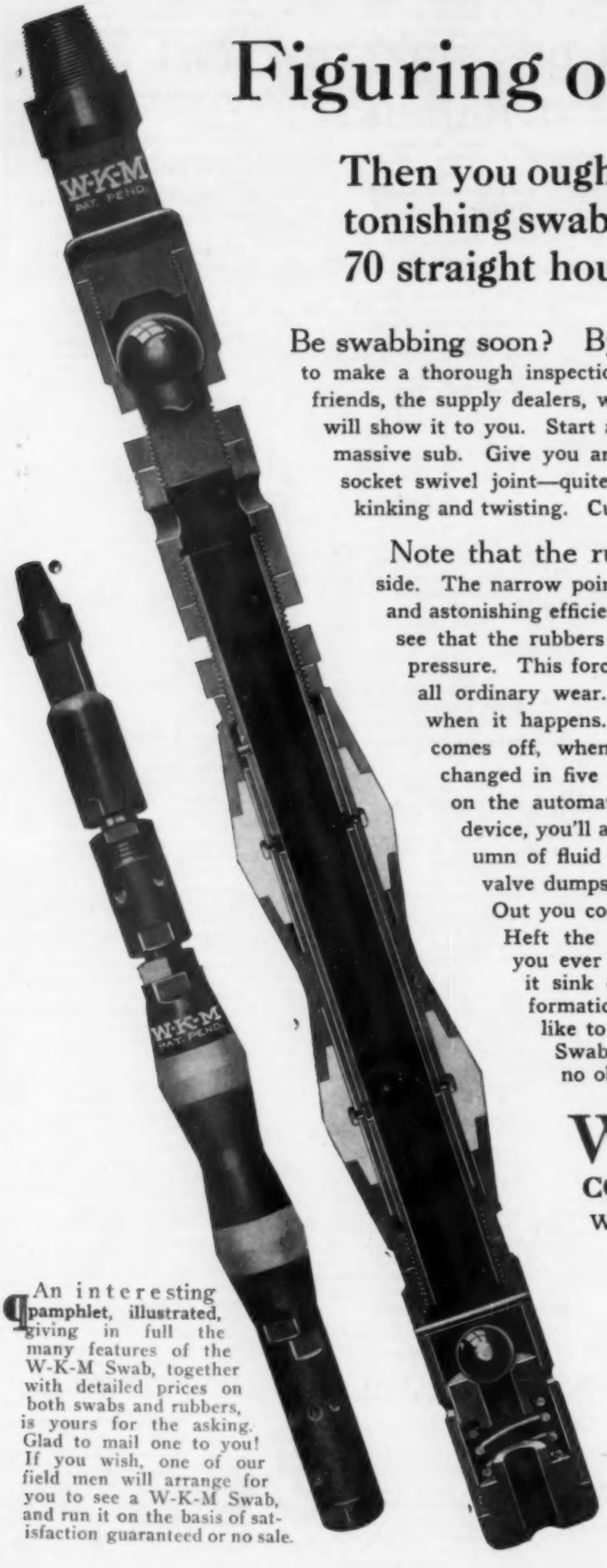
Rock Bit Wrenches—
American Iron and Machine Works 266
General Electric Company ...105

Rotors—
W-K-M Company, Inc. 246

Safety Combination Clamp—
Marion Machine Foundry and Supply Company 26

Safety Hooks—
Fuller Machine and Forge Works 132

Safety "S" Links—
Shaffer Specialty Company 38



Figuring on *Swabbing?*

Then you ought to look into this astonishing swab, whose latest record is 70 straight hours—rubbers still good

Be swabbing soon? By all means, accept our invitation to make a thorough inspection of the new W-K-M Swab. Our mutual friends, the supply dealers, will gladly help you do it. Or, our field men will show it to you. Start at the top and work down. Check up on the massive sub. Give you any pin connection you want. Look into the socket swivel joint—quite a feature for keeping your wire line from kinking and twisting. Cuts out fishing jobs, too.

Note that the rubbers are beveled on the casing side. The narrow point of contact gives them amazingly long life, and astonishing efficiency. Take the rubber assembly off, and you'll see that the rubbers are moulded for expansion by internal fluid pressure. This forces a tight seal on the upstroke, and takes up all ordinary wear. Mechanical adjustment takes up the rest when it happens. Notice how easily the auxiliary mandrel comes off, when desired. Rubbers can be changed in five minutes, or less. Check up on the automatic unloading valve—a neat device, you'll agree. When too great a column of fluid is picked up, the unloading valve dumps part of it back in the well. Out you come with just the right load. Heft the swab. About the heaviest you ever lifted? This weight makes it sink quickly. Write for full information, and tell us where you'd like to inspect or try one of these Swabs. We'll do the rest, and no obligation at all!

W-K-M
COMPANY, Inc.
West Bldg. Houston, Tex.

¶ An interesting pamphlet, illustrated, giving in full the many features of the W-K-M Swab, together with detailed prices on both swabs and rubbers, is yours for the asking. Glad to mail one to you! If you wish, one of our field men will arrange for you to see a W-K-M Swab, and run it on the basis of satisfaction guaranteed or no sale.

¶ Change rubbers? Remarkably easy! Unscrew unloading valve (No. 1). Now unscrew bottom rubber retainer (No. 2). Slide auxiliary mandrel off (No. 3). Knock rubbers loose, insert new ones. Reassemble in the reverse of the order given above.

Say you saw it in The OIL WEEKLY

Haul or skid this machine straight to the pipe, instead of hauling tons of pipe to a stationary straightener. With it, two men can straighten as much pipe as with a power machine, and do a better job! Sold subject to return if not entirely satisfactory.

WEIGHT
1275 pounds

POWER
hand

PRESSURE
30,000 pounds

CAPACITY
8" pipe & smaller

This machine is entirely self-contained and is ready to go to work wherever you place it. Can be skidded, or hauled on wagon or ton truck.

PRICE
$350.00
f. o. b.
Burkburnett,
Texas

75 *straightened* joints pay for it

Under average conditions, the cost of having 75 joints of 6" or 8" pipe straightened will entirely pay for a W-K-M Portable Hydraulic Pipe Straightening Machine. From then on, the machine will pay for itself time after time. One major oil company, at an Arkansas warehouse, states that its men in one year increased the inventory value of pipe on hand by $70,000 with a W-K-M Straightener. Name on request. The coupon opposite will bring you full details of this machine—and how you can put it to coining money for you by straightening bent pipe and tubing at ridiculously low cost. Send it today, there is no obligation.

W-K-M COMPANY, Inc.
West Building, Houston, Texas.

Gentlemen:—

Without obligation, I would like to know more about your Portable Hydraulic Pipe Straightening Machine.

Name . . . . . .

Address . . . . . .

Safety Throttle Valve—
Ajax Iron Works 11
Sand Pumps—
Larkin and Company 16h
Sand Tester—
Halliburton Oil Well Cementing Company 16
Sand Traps—
Blanton Sand Trap Company 286
Screen—
J. H. McEvoy and Company..259
Screen Casing—
E. M. Smith Company 268
Slef-Cleaning Cones—
Hughes Tool Company 48
Separator—
Burns Tool Company 130
Smith Separator Company 16e
Set Shoe Assemblies—
J. H. McEvoy and Company 259
Slip Bowls—
Beaumont Iron Works Co. ..16c
Speed Spools—
Marion Machine Foundry and Supply Company 24
Spudders—
The Clark Machine Company . 13
Standing Valves—
Axelson Machine Company ..103
Standing Valve Pullers—
Axelson Machine Company ...103
Stationary Boiler Gauge Cocks—
J. E. Schaffer Company 20
Starters, Field Motor—
General Electric Company.....105
Stuffing Boxes—
B. V. Emery and Company ... 33
Fuller Machine and Forge Works 132
H. C. Smith Manufacturing Co. 130
Sucker Rod Elevators—
B. & A. Specialty Company ..16f
Shaffer Specialty Company ... 38
Sucker Rod Guides—
W. C. Smith 37
Sucker Rod Hooks—
Walter O'Bannon Company .. 27
A. H. Neilson Manufacturing Company 46
Shaffer Specialty Company .. 38
Sucker Rod Spiders—
Shaffer Specialty Company ... 38
Sucker Rod Wrenches—
Shaffer Specialty Company ... 38
Swabs—
Burton Corporation 16g
The Guiberson Corporation 84
Saunders Brothers 262
Simplex Equipment Company . 62
United Iron Works 48
W-K-M Company, Inc. 244
Swabs, Swivel—
The Cunningham Company ...288
Swivel Ells—
Beaumont Iron Works Co. ...16b
Swivel "S" Links—
Shaffer Specialty Company .. 38
Take-Up Reels—
The Braden Steel and Winch Company 28
Tank Baffles—
Frick-Reid Supply Company .16h
Tank Control—
J. A. Campbell 133
Tank Gauges—
W-K-M Company, Inc. 246
Tank Thiefs—
Henry C. Beard 282
Temper Screws—
M. H. Magie 75
Threading Devices—
Nye Tool and Machine Works 16c
Threading Machines—
The Landis Machine Company 112
Tongs, Back-up—
J. H. Williams and Company .78
Tongs, Casing—
Dunn Manufacturing Co. 81
Tongs, Go-Round—
Wilson and Willard Manufacturnig Company 88
Tool Joints—
U. S. Tool Company 278
Trailers—
Leland Truck Equipment Co. 81
W. C. Nabors Company 37
Spencer Trailer Company 81
Traveling Blocks—
Beaumont Iron Works Co. ...16a
Torsion Balances—
George Steiner 32
Trucks, Oil Field—
Wichita Falls Motor Co. 116
Tubing Anchors—
Hercules Tool Company 26
Tubing Bleeders—
Dunn Manufacturing Co. 81
Tubing Blocks—
Beaumont Iron Works Co. 16b
Peerless Supply Company 54
Tubing Catchers—
P. J. Leonard 130
W-K-M Company 244
Tubing Drainers—
Ford Specialty Company 37
Petrolia Supply Company 46
Tubing Hangers—
Hercules Tool Company 26
Tubing Pullers—
Petrolia Supply Company 46
Tubing Slips and Spiders—
The Harrisburg Pipe and Pipe Bending Company of Texas. 46
Tubing Spiders—
The Bovaird Supply Company 264
Tubing Spiders and Hangers—
The Oil Well Supply Co. 18
Tubing Supports—
B. & A. Specialty Company ..16g
Tubing Tongs—
Beaumont Iron Works Co. ...16c
D. & B. Pump and Supply Co. 45
Turbo Grinders—
Becker Specialty Company ... 36
Split Steel Tug Rims—
Marion Machine Foundry and Supply Company 24
Spring Traveling Blocks—
The Oil Well Supply Co. 18
Underreamers—
Brown Tool Company, Inc. ... 54
H. C. Smith Manufacturing Co. 16g
Vacuum Seal Pumps—
Ford Specialty Company 37
Valves—
The P. & H. Valve Company .250
Valves, Gate—
Hughes Tool Company 48
Valve and Thief Hatches—
The Maloney Tank Company.. 20
Valve Seat Pullers—
MacClatchie Manufacturing Co. 259
Valve Seat Pullers—
H. C. Smith Manufacturing Co.129
Wall Baffles—
Boiler Engineering Company..282
Weight Indicators—
Loomis Oil Well Control Co..104
Welding Rods—
Chicago Steel and Wire Co.... 59
The Stoody Company 66
Welding Torches—
Air Reduction Sales Company..135
Whipstocks—
The Harrisburg Pipe and Pipe Bending Company of Texas.. 46
Wire Fences—
The Hudson Wire and Iron Co. 30
Wire Line Drilling Clamps—
Acme Fishing Tool Company.. 26
Wire Line Guide—
Beaumont Iron Works Co....16b

Empire Warehouse System Keeps Permanent Inventory

(Continued from page 82)

cover pretty well its value for future service. A further consideration in fixing the depreciation figure is to make the second hand cost of the reclaimed articles attractive.

An example of how the system works out may be illustrated with the handling of pipe. Pipe is divided in four classes, A, B, C and D.

Classes of Pipe

Class A pipe includes all new stock and is carried at the regular new price.

Class B pipe is used pipe that is found to be virtually as good as new. The threads must be in good shape and the collar on. This class is depreciated 30 per cent.

Class C pipe is used pipe in a repairable condition. Into this class falls pipe with damaged threads and lost collars that still has a good body. After being rethreaded and new collars put on, it is equal to class B pipe. Class C pipe is depreciated 50 per cent.

The remainder of the pipe is put into class D. Into this class goes pipe which is badly rusted and pitted and virtually irreparable. Some of the class C pipe may be used for low pressure lines, fabrication, etc., but most of it is sold for junk. Class D pipe is taken at 60 per cent off of list.

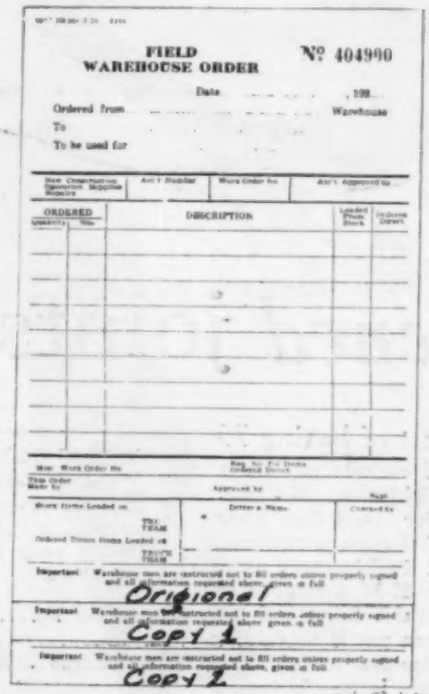
Depreciation of Items

Lumber in sizes 8x8, or over, is taken back into the stores at 40 per cent off of list. In some cases smaller size pieces can be used to good advantage, of course, but as a rule it is considered junk.

Steel bull wheels are depreciated 30 per cent when taken back into the warehouse. Wood bull wheels are generally accepted only for what the gudgeons are worth.

Tanks, both steel and wood, are taken back at 40 per cent of new value. Wood tanks are not carried as tanks, but rather as staves, etc.

Pumps are usually depreciated 50 per cent and the cost of repair. If the type is obsolete or totally unfit for future service they are accepted only as so much junk.



FIELD
WAREHOUSE ORDER

№ 404990

Date ..... 192..

Ordered from ..... Warehouse

To

To be used for

ORDERED	DESCRIPTION	Loaded From Stock	Ordered Direct

Mine Work Order No. ..... Req. No. P.C. Order ..... Ordered Direct

Time Order Made by ..... Approved by ..... Dept.

Stock Items Loaded on ..... Driver's Name ..... Checked by

THIS TRAM

Ordered Direct Items Loaded on

THESE TRAM

Important Warehouse men are instructed not to fill orders unless properly signed and all information requested above given in full

Original

Important Warehouse men are instructed not to fill orders unless properly signed and all information requested above given in full

Copy 1

Important Warehouse men are instructed not to fill orders unless properly signed and all information requested above given in full

Copy 2

Fig. 2. Field Order form used by the Empire Companies on warehouses. The field men carry a book of these in their pockets.

Materials and supplies that are beyond repair or obsolete are gotten rid of as junk. Other materials that are repairable, but no longer needed by the companies, are sold to outside concerns. The engineering department handles most of such sales for the stores department.

As was pointed out by Mr. McBride, the superintnedent of stores, there is no set and fast rule for handling depreciation that can't be changed a little under special circumstances. The fixing of values is attempted in a manner which will be as near as possible in accordance with actual worth for future use.

The storekeeper who handles these reclaim materials is expected to know something of materials and be a judge of possible values for future service. He closely inspects them and reports their condition in detail to the central office, which handles the determination of values.

All reclaim materials needing repair are sent to a shop for the necessary work. If it is expedient, the work is done in one of the company shops. If, on the other hand, the cost of such handling would be prohibitive, the materials are sent to a local shop, where it is practical to do so. Local conditions are always taken into consideration.

It is not the rule of the Empire Companies to repair all materials as soon as they are taken in. It has been found that it is best to hold back certain items until there is a demand for them.

NEW EQUIPMENT

Guiberson Perfecting a Panelled-Thread Tool Joint

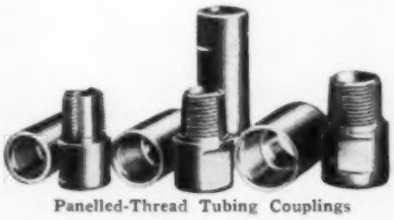
THE Guiberson Corporation, which introduced the Rotary Tool Joint years ago, is pleased to announce that it has been conducting tests for the past twelve months on a new type of tool joint with panelled threads, which requires only a quarter turn to make up. Indications to date have been exceedingly favorable, and it is planned to place on the market immediately a sucker rod coupling incorporating the panelled-thread principle, and to introduce, within another six months, panelled-thread tool joints and tubing couplings.

Six-Inch Panelled Thread Tool Joint

The new type of tool joint offers a number of distinct advantages, among others:

1. In stabbing, the thread panels are so turned as to miss each other, which eliminates the danger of turning over the thread crests, and the stem is landed on a shoe which, when the quarter turn is made, guides the thread accurately into mesh.

2. A quarter turn only is required to make up the joint, instead of approximately four turns, eliminating hand working or starting of rotary, and rendering the making up easier and speedier.



Panelled-Thread Tubing Couplings

3. Extended field tests have indicated that there is no more danger of this joint backing off than in the case of ordinary rotary tool joints. This is explained by two causes. First, the new panelled-thread joint has as much thread area as the ordinary joint of the same size, the average diameter of the threads being greater and the pin longer. Second, the small quarter-turn has reduced thread wear to a minimum, so that threads retain their original accurate fit over long periods of service.

4. Breaking out is also speeded up and simplified. A quarter turn releases the joint, and, with tension on the spring drilling hook, or a weighted dead line, the pin is instantly lifted from the box.

5. The new joint has proved amazingly durable. The quarter turn has reduced wear between threads to a minimum, and threads show practically no wear after months of use. This means long life for the equipment, and prevents creeping.

6. Wear and tear on the rotary is greatly reduced, as the rotary is not ordinarily used for making up and breaking out.

7. The design of the new joint permits a larger hole through the center—for example, 4-inch as against 3½-inch, in a 6-inch joint.

Guiberson Breaking-Out Machine in Use on Panelled-Thread Tubing Coupling

8. Safety of workmen is greatly enhanced, as the rotary need not be used for making up and breaking out these joints, and danger of being struck by a whirling tong handle is removed.

The Acme type of thread has been used to date on the new panelled-thread joints and couplings.

A special feature in connection with the sucker rod coupling is the bronze guide shown in the illustration in the right-hand column. This guide slips on the box before the coupling is made up. It not only serves as a guide to prevent wear on the tubing, but also tends to rotate the rods, when a swivel connection is used at the top of the string.

This panelled-thread, in connection with tool joints, tubular couplings, and sucker rod couplings, is fully covered by patents.

Panelled-Thread Sucker-Rod Coupling

The GUIBERSON Corporation has perfected and patented a special breaking out machine for use in breaking Guiberson Panelled-Thread Tubing Couplings. By means of reduction gears, this machine multiplies the manpower exerted sufficiently to break the tightest coupling with ease.

For further information on these specialties address The Guiberson Corporation, Box 1106, Dallas, Texas.

(Advertisement)

Yes! It's Crooked!

It didn't drop far, but it is ruined tubing just the same. The GUIBERSON Tubing Catcher would have saved it.

"Better Be Safe Than Sorry"

THE GUIBERSON CORPORATION

Box 1106, Dallas

CALIFORNIA BRANCH: 1506 Santa Fe Ave., Los Angeles

402 W. First Street TULSA

506 Trust Building NEWARK, O.

GUIBERSON

BETTER BE SAFE THAN SORRY

Say you saw it in The OIL WEEKLY

Guiberson Swab Offered in More Compact Model

New Type Especially Recommended for Production

AMONG the important items of new equipment brought out by the Guiberson Corporation during the past year, has been our "Type E" Swab, a more compact model of the Guiberson "Type A" Swab. The "Type E" Swab does not replace the "Type A", but was brought out as an additional model especially suited for continuous production swabbing.

As will be noted from the illustrations in this column showing both types, the new model is much shorter, has only two cups instead of three, and is of more compact design generally. This model was given an extended try-out in actual use and was then placed on the market in March of this year. It has since come into wide general use.

Construction

The "Type E" Swab has a tool joint top and an extra large mandrel and check valve which enable it to drop rapidly through the fluid when running in. The perforated sub and mandrel are a single piece of steel, as shown by the parts illustration at right. To change cups the check valve at bottom is simply unscrewed, after which the two cup assemblies and the loose sleeve which separates them, readily slip off the mandrel and new cups are instantly slipped into position.

New "Type E" Swab is much shorter than "Type A"

The holes in the sleeve separating the cup assemblies permit the washing out of fine sand which may lodge between the sleeve and mandrel.

Cups are of the same oil tested composition which is used for our "Type A" Swab, but the "Type E" cups are shorter and stronger and give longer service when in constant use.

The "Type E" has a special advantage in its extreme shortness, which permits it to go around the worst crooks in the hole.

Advantages

Our "Type E" Swab has the same general advantages which made our "Type A" Swab, within two years after its introduction, the most widely used swab in the world. These advantages, briefly, are as follows:

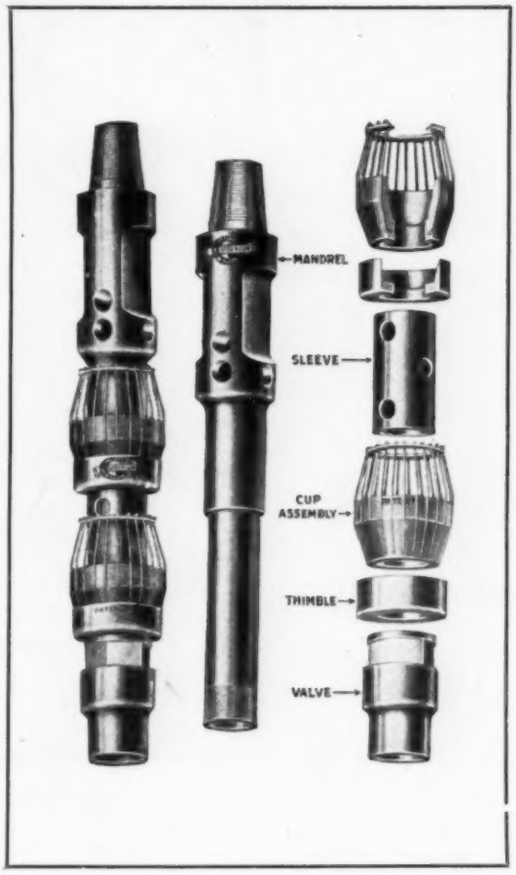
1. It runs in the hole more easily than any other swab, due to the liberal passageway through the mandrel and to the tendency of its pliable cup rims to collapse and allow the fluid to by-pass. Stem and jars are not needed to sink this swab.

2. Its cups give an almost perfect suction, when swabbing, as the fluid pressure itself holds their rims tightly against the casing walls, instead of working against this contact as in the case of old style swabs.

3. Both going in and coming out, it passes indentations in the casing walls with ease, as the cup rims readily yield to irregularities in the casing walls.

4. The cups pass pipe joints uninjured, being fully protected by the imbedded flexible guide wires.

5. The swab is practically non-leakable, and will swab a greater volume of fluid per trip than any other swab yet developed.



Showing "Type E" assembled and its parts

6. The same cups will operate in two weights of casing, due to their resiliency and to the action of the fluid pressure in forcing their rims against the casing walls.

7. This swab will not kink wire line when it strikes the top of the fluid, running in. It is not stopped by the fluid, but passes into the fluid easily.

8. The cups of the "Type E" swab are more sturdily built than those of the "Type A" and have proved extremely durable when used for continuous production swabbing.

For complete information about the Guiberson "Type E" Swab, address The Guiberson Corporation, Box 1106, Dallas, Texas, or communicate with our branch offices at Los Angeles, Tulsa, or Newark, Ohio.

(Advertisement)

The Strongest Underreamer

Note how body and cutters lock together!

Here is shown the **primary** strength secret of the GUIBERSON Underreamer—body and cutters of great strength, and a **method of inter-locking** that gives them, in combination, the **rigidity** and **strength** of a **drilling bit.**

Bearing surface between body and cutters of the GUIBERSON Underreamer is **3 times as great** as that of any other underreamer. Fully patented.

"Better Be Safe Than Sorry"

THE GUIBERSON CORPORATION

Box 1106, Dallas, Texas

CALIFORNIA BRANCH: 1505 Santa Fe Ave., Los Angeles

402 W. First St., TULSA

506 Trust Bldg., NEWARK, O.

GUIBERSON

BETTER BE SAFE THAN SORRY

New and Improved FIELD EQUIPMENT *for* 1926

ON the following pages *The* OIL WEEKLY has brought together a condensed but complete illustrated description of all new and improved equipment brought out during the past year for the producing and transportation branches of the oil industry. In this section you will find an answer to your every question on late developments in the industry's mechanical department.

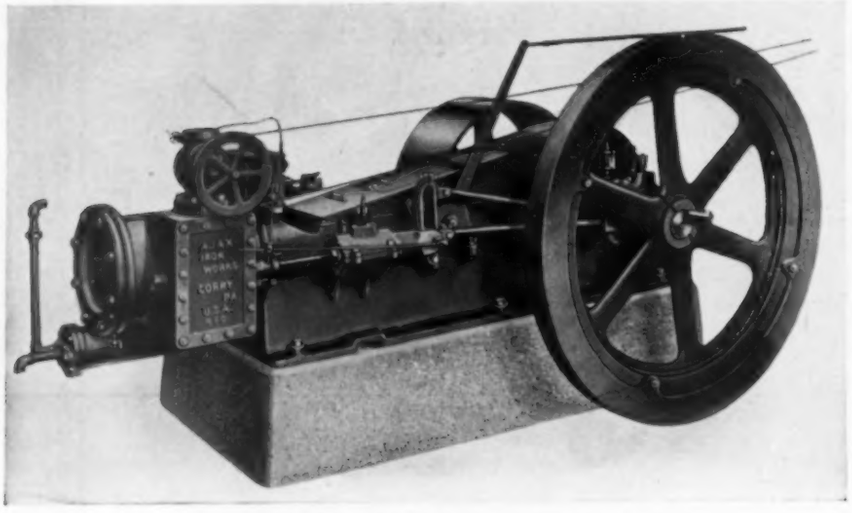
The annual Equipment Number of *The* OIL WEEKLY supplements your equipment catalogs and has in easy reference form valuable data that can not be secured elsewhere. This service has been made possible through the close co-operation of the many manufacturers of oil field supplies.

The information given is as complete and authentic as it is possible to get it and descriptions have been included on all available products, represented to us by the manufacturer as being new or improved, whether or not the manufacturer is an advertiser in *The* OIL WEEKLY.

You will have use for this issue, so give it a permanent place in your buying records for future reference.

Classified Index on Page 95
in regular news form.

NEW EQUIPMENT FOR 1926



Ajax Single Cylinder Drilling Engine

Ajax Iron Works Offers Several New Items

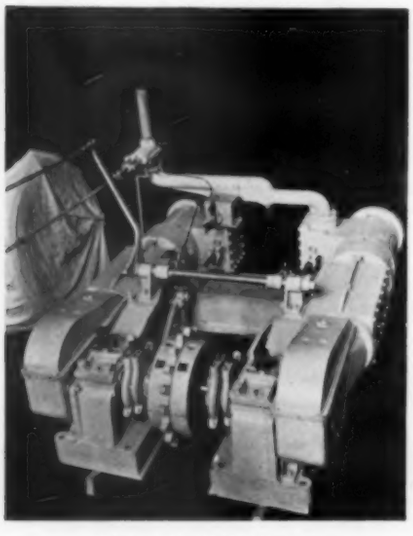
A number of new items of unusual interest to oil operators have been brought out by the Ajax Iron Works of Corry, Pennsylvania, during the past year. These include the enclosed type Ajax Single Cylinder Drilling Engine, the Ideal Ajax enclosed type twin cylinder engine, the improved Ajax-Carson lubricator, and the Ajax-Greenwood safety throttle valve. Descriptions of these items follow:

The enclosed type single cylinder engine is built in sizes from 10 x 10½, 11 x 11½, 12 x 12, 13 x 13 and 14 x 14, and is of the same general design as the open type of engine which Ajax has built for a number of years. The enclosed engine is lubricated by splash system; the crank shaft is counter balanced, and a lagged pulley is furnished as standard equipment. The side and end walls of the main frame are brought up to the level of the top of the main bearings and form the oil reservoir. This reservoir is equipped with an oil retainer stuffing box which prevents the oil form running out along the piston rod. Both this stuffing box and the piston rod stuffing box are packed from the outside the reservoir.

The crank case cover is made of sheet steel and is very strong, but light enough so it can be easily handled by one man. This cover has two openings which, in turn, are fitted with covers through which adjustments can be made to the crank end bearing or to the crosshead end bearing. The piston rod, crosshead guides, cross head pin, crank pin and main bearings are oiled from the splash in the main reservoir. This oil is caught by the revolving crank discs and thrown to all parts to be lubricated.

The engines from 10 to 12 x 12 inclusive are equipped with a 4½-inch crank shaft and with a 1¾-inch piston rod. Up to this itme all engines of the above sizes were equipped with a 4-inch crank shaft and with 1½-inch rods. The valve stem slide bracket has been lengthened; but eccentric straps are equipped with grease cups; improved Ajax-Carson Force Feed Lubricator being standard equipment. Practically all parts, with the exception of the main frame, main box caps, quarter boxes, crank shaft, connecting rod center, crank end brass, crank end strap and pulley, are interchangeable with the open type engines.

The 13 and 14 x 14 single enclosed type engine is of the same design as described above, however, it is equipped with a flywheel center and three rings, while the former practice with the open type engine was to furnish two balance rings only. These sizes have 5-inch crank shaft and are furnished with 36 x 14-inch lagged pulley as standard equipment.



Ideal Ajax Twin Engine

Ideal Ajax Twin Engine

The Ideal Ajax Twin engine is of the enclosed type. Crank brass, crosshead brass, crosshead and main bearings are lubricated from the splash of oil in the crank case.

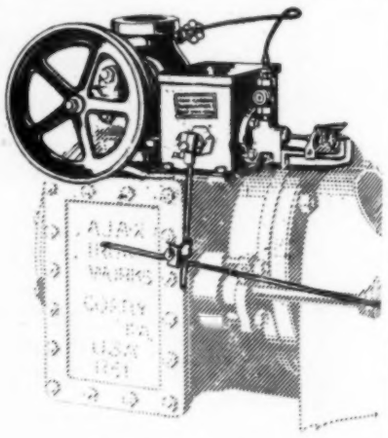
These engines are equipped with a spacing heat situated between the main frame and the cylinders, which contains the oil retainer stuffing box and the piston rod stuffing box which insures that no condensation or steam can enter the crank oil case.

Ajax-Carson Lubricator

The Improved Ajax-Carson Force Feed Lubricator is positive in its operation, it is not effected by temperature or steam pressure and can be regulated to feed as much or as little oil as is required.

The oil reservoir is easily filled, the cover opening being full size. Heavy oil and tallow poured into the reservoir will feed as dependable as the lighter oils.

The blinker type sight feed is constructed so that the oil passes through a circular chamber enclosed by a heavy glass disc. The outlet in the center of this chamber contains a hollow plug or plunger and the oil to pass though the outlet must compress the plunger, which moves in and out, flashing or blinking exactly according to the pulsations of the pump, and showing plainly the movement of the oil being delivered. One of these sight feeds is furnished with every lubricator.



Ajax-Carson Lubricator

When installing a lubricator on an Ajax or Ideal Ajax Drilling Engine the steel plate sub base should be placed between the cylinder and the throttle valve and the lubricator then mounted on the sub base.

On Ideal-Ajax Twin Engines the steel sub base should be placed between the steam manifold and the right hand cylinder, and the steel washer should be placed between the steam manifold and left hand cylinder.

When making an installation on an Ideal Slush Pump the angle iron sub base

(Continued on page 11)

REED ROTARY DRILLING TOOLS
SPEED · ECONOMY · DURABILITY

New Tools for New Conditions·

THE Reed Roller Bit Company, with its organization reaching out into the fields of the world, keeps in close touch with drilling problems as they arise. It is fully cognizant of the ever increasing demand that only those drilling tools which tend toward a more economical production of oil shall be received and find a worthwhile place in the equipment regularly used.

Our engineers working in conjunction with the field force are constantly at work designing and experimenting with new tools that will tend toward this end. But at no time has, or will, this company offer for sale to the drilling fraternity any product which has not been thoroughly tested and proven by exhaustive tests and trials of every sort.

Reed Rotary Drilling Tools Keep Pace With Drilling Needs Everywhere

The Model 26 Reed Rock Bit

The Model 26 Reed Rock Bit we believe to be the greatest advancement in a rock cutting tool that has ever been placed on the market. In its primary design it follows closely the original principles of the Standard Model Reed Rock Bit which has for years been an outstanding rock cutting tool. And in addition certain refinements have been incorporated which tend to make it an even more efficient aid in the penetration of rock formations. A glance at the accompanying illustration will readily disclose several of these refinements.

The head of this bit has been made longer, permitting greater tong space; the slush passage ways up its sides have been greatly increased; the reamer body has been squared for the same purpose, and is now being manufactured from a solid billet of steel, hammered to size, bored and machined. The reamer cutters placed in the

REED ROTARY DRILLING TOOLS

SPEED - ECONOMY - DURABILITY

Double Three Point Reamers

four corners of this reamer body have been made larger and longer, permitting greater contact with the wall; with greater cutting surface and tending to a more rigid placement of the Bit in the hole and allowing a greater area for the free upward passage of slush and cuttings.

The cross cutters in the bit head of this new Model Bit are placed on an eccentric bushing, thus lifting the bit head up away from the bottom of the hole and relieving the tendency to re-cut formation which has already been chipped away. New slush passages exert a tremendous jet action directly at the bottom of the hole and obtain a clean cutting space on which to operate at all times, and thereby obtaining an even greater speed of penetration than has heretofore been possible. The cross cutters have been grooved, effecting a cleaning action upon the teeth which are differently pitched to permit the penetration of softer strata of formation.

The heat treatment through which both the bit and reamer cutters pass is the result of long years of scientific study and experimentation. Three types of cutters are manufactured for this bit: Type "A" is a coarse tooth cutter furnished for use in chalk, anhydrites, sticky lime, hard shale, or where formation is broken or interspersed with hard shells. Type "B" is a medium-tooth cutter furnished for use in basalt, granite, flint, conglomerate, or like character formation. Type "C" is a fine-tooth cutter and is furnished for use in quartzite, chert or schist.

The Reed Double Three Point Reamer is a development brought about by the great amount of tight hole trouble experienced by numerous operators when using disc, fishtail, or like type bits. This Reamer with its six points of contact arranged in tandem is manufactured from a solid billet of steel and is so strong in design and construction

REED ROTARY DRILLING TOOLS
SPEED - ECONOMY - DURABILITY

that its use can in no way make more hazardous drilling operations. On the other hand, its constant contact with the wall of the hole and its placement directly above a disc, fishtail, or similar bit, provides a stiff, rigid member which holds these bits in position most effective in securing maximum efficiency. This tool can be used much in the manner of a reaming drill collar and leaving as it does 35 per cent of the hole clear for the upward passage of slush and cuttings, makes unnecessary any after-reaming, and permits of quick change from fishtail to disc bit; disc bit to rock bit; or vice versa. As a reamer, the Reed Double Three Point has no equal.

The Reed Wire Line Bit

The Reed Wire Line Bit is from every point of consideration the most advanced tool that has ever been offered to rotary drilling operators.

With a record of more than 120 wells successfully drilled with this bit, it is no longer an experiment, but a tool of proven value. Designed as it is to operate on a wire line either through regular upset drill pipe equipped with full hole tool joints or on straight drill stem with collars, it fills a long felt need in test driling or in shifting formations or where it is hard to get proper returns.

Wells have been drilled to more than 4000 feet without ever removing the drill stem from the hole, and it is possible to change blades at this depth in 45 minutes time. Further, while the blades are being changed, if the need arises, rotation and circulation may be kept up by means of a circulating head which we manufacture. Special type heads are made for use as a combination bit head and set shoe where the drill pipe is to be left in the hole.

REED ROTARY DRILLING TOOLS
SPEED · ECONOMY · DURABILITY

The New Reed Coring Tool

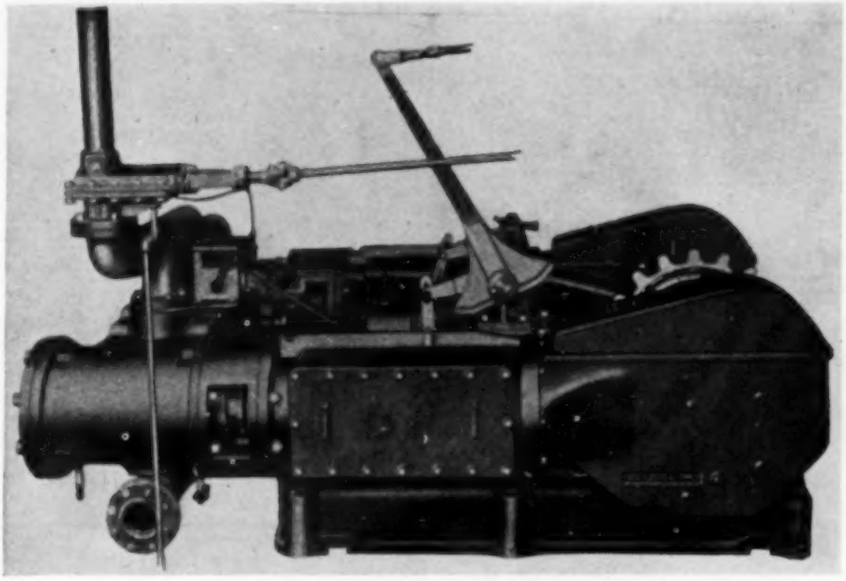
A coring attachment is manufactured for this bit which permits of the frequent and easy taking of cores without any waste of time. This attachment operates through the drill pipe and cores may be taken as easily as blades are changed.

Blades are furnished for use with this bit at a cost in line with dressing of fishtail bits, and this tool has, on more than one occasion, paid for itself before the first well was completed.

The New Reed Coring Tool has been refined and improved to a point where we believe we are safe in saying that it has no equal in the taking of uncontaminated cores in formations of every character up to and including the hardness of anhydrites. The inset blades on this tool, together with the crown cutter which precedes the blades, are all tipped with stellite and are placed so as to eliminate the possibility of their loss in the hole. They are heat treated to a point of intense toughness without brittleness and the barrel is long enough to permit of cores up to 7 feet in length. The water courses are arranged so that the slush passage does not in any way interfere with or contaminate the core which is being taken. The Reed Coring Tool is so simple in construction and operation that there is small chance for failure in core taking, and it is being extensively used on wildcat operations in rotary drilling fields all over the world.

Write for illustrated descriptive pamphlet on any or all items of our manufacture.

REED ROLLER BIT CO.
HOUSTON ~ LOS ANGELES



Showing Ajax-Greenwood Safety Throttle Valve

Ajax Iron Works Offers Several New Items

(Continued from page 6)

should be attached to the lugs cast on the steam chest cover, and the lubricator mounted on the sub base.

Before connecting the copper oil tube to the angle valve, fill the lubricator reservoir with oil and work the drive rod by hand and fill the oil line to overflow. In this way the operator will know that the oil tube is clear and that oil will be forced into cylinder when engine is started.

Ajax-Greenwood Safety Throttle Valve

Safety is the outstanding feature of the Ajax-Greenwood Safety throttle valve. Closing the throttle in the usual way automatically bleeds the steam chests and manifold, releases the entire engine steam content and prevents the steam from building up a pressure in the manifold, steam chests and cylinders.

This throttle valve installed on drilling engines is said to prevent serious accidents often caused by engines starting unexpectedly.

The top of the bottom half of the body is carefully milled and ground and forms the seat for the disc. When the disc is in the closed position, the safety feature comes into play. A cored slot in the main steam passageway under the disc connects with holes drilled in the seat. When the disc is in the closed position the drilled holes with the recess cast in the disc form a passageway and the trapped steam in the steam chests and manifold is permitted to escape to the atmosphere by passing through the disc recess and into the bleeder pipe.

Further information on all these items may be obtained from the Ajax Iron Works, Corry, Pennsylvania.

Chicago Pneumatic Tool Company

Among the various articles of machinery handled by The Chicago Pneumatic Tool Company, 6 E. 44th Street, New York City, are two that are finding wide application in the oil industry. These include a new vertical four stroke cycle gas engine driven air compressor, and the Benz Diesel engines from 80 to 240 H. P. at 327 rpm.

Air Compressor

The compressors are designated as type V-CTG and V-CTGZ.

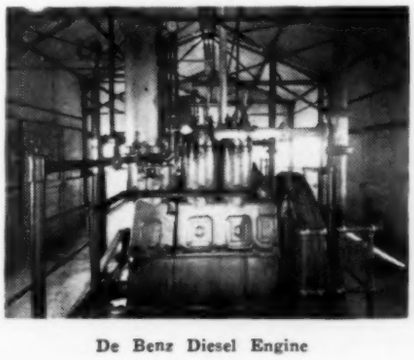
The latter machine was specially designed for the flowing of oil wells after consultation with practical oil production men. This ideal oil well flowing unit utilizes the design of the Motoren Werke Manheim Benz Engine in all its details with substitution of gas heads and ignition piston in place of the standard Diesel heads.

The design is unique from the fact that if at any time gas supply becomes exhausted Diesel heads can be substituted for the gas heads and the unit becomes a full Diesel solid injection engine unit.

The air compressor is of the standard Chicago Pneumatic type, with the well known simplate valve.

High Compression Diesel

In presentnig this high compression Diesel engine to the trade an exceptionally fortunate combination of resources is brought into play. It is generally accepted that German engineers have led in the development of the design of engines of the Diesel type—American engineers have led in mass production of machinery—such a combination was effected when the rights for manufacturing the Motoren Werke Manheim Benz Solid Injection Diesel engine were acquired by the Chicago Pneumatic Tool Company.



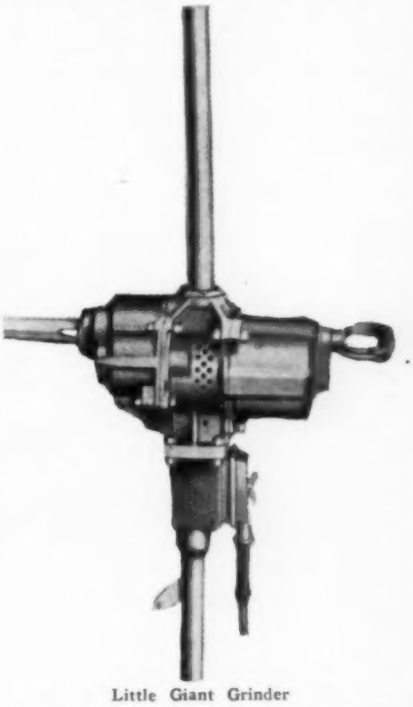
De Benz Diesel Engine

To most engineers the name Benz suggests engineering achievements—recalling to mind the exploits of the submarine Deutchland in the early days of the World War, for the Deutchland was equipped with NWM Benz Diesel engine. Since the war the design has been further developed and improved adapting it to industrial purposes in which service their reliability and economy have been outstanding features.

Little Giant Grinder

The portable grinder has come into use on many classes of production work where high speed and continuous service are a necessity.

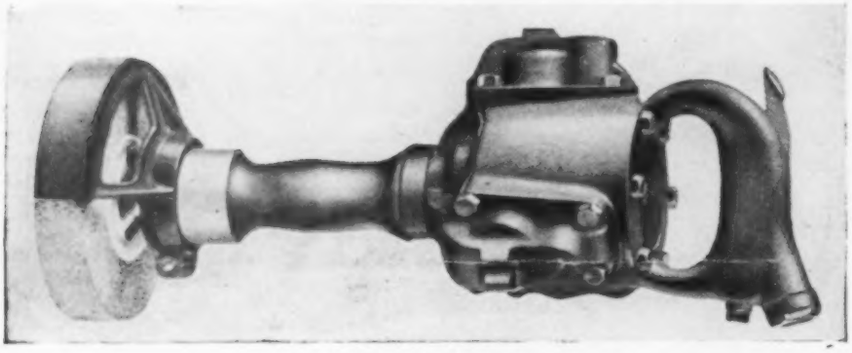
The Little Giant Grinder has been designed to meet the modern requirements. It has three cylinders, 120 degrees apart, each cylinder being provided with its own valve of the piston type.



Little Giant Grinder

Pistons and toggles are of the pin type and the vent tube is of the centrifugal ball check type (U. S. and foreign patents applied for). When the machine is at rest the ball check is seated, preventing the loss of lubricant due to oil moist or submerged vent. When in operation the ball check is unseated due to centrifugal force thus venting the crankcase without the loss of lubricant with escaping air.

The stuffing box packing is an improved design, consisting of cup leath-



Portable Reamer

ers that do not require adjusting, as they embrace the spindle just enough to eliminate leakage.

The valve is set to cut off at the point of highest efficiency effecting the greatest possible economy in air consumed. The design of the No. 33 Grinder permits minimum weight with simplicity in construction and assembly. There are three major assemblies —housing—cylinder—live air grip handle.

By the removal of the grip handle, the eccentric straps and the eccentric with vent tube element may be quickly disassembled. Anyone of the three cylinders, pistons, rods or valves, may be dissembled without disturbing the other two assemblies. Removal of the grip handle and one cylinder permits the removal of the crank-shaft.

More information can be secured by communicating with the company.

Portable Reamer

To meet the demand for a portable electric reamer combining low maintenance cost with light weight, the Chicago Pneumatic Tool Company, 6 East 44th Street, New York, has developed its No. 3 Little Giant Hicycle Reamer.

Advantages of the reamer as outlined by the Manufacturer include a number of features:

Ball bearing construction on all rotating parts insures a maximum of efficiency.

A quick detachable cable allows repairs to the cable to be made on the job.

A quick-acting switch adds to the speed of the tool.

An outside spindle insures ease in extracting drill or reamer.

Other features will be pointed out by the manufacturer on request.

New Model Manzel Force Feed Lubricator

A new model No. 82, especially designed for timed lubrication of the cylinders of Diesel and oil engines, has recently been added to the "Manzel" line of Force Feed Lubricators.

The great advantage claimed for the new model by its manufacturers is its adaptability for timing the injection of oil into the cylinders, the accessibility of parts for repairs or replacements, and its positive sight feeds which show the actual amount of oil being forced into the cylinders after it has passed all possible places of mechanical leakage.

It is generally recognized that the most efficient lubrication of Diesel engines is obtained by forcing the oil, in minute quantities, directly onto the pistons, between the rings, at or near the end of the working stroke. With the "Manzel" Model "82" Lubricator it is possible to time the injection of the oil so that it will actually be forced on to the piston at the exact point and time desired.

The Model "82" is built on the unit principle, each unit consisting of a single plunger pump which forces oil through a glycerine-filled sight glass, the glass showing the exact amount of oil being forced to the cylinder. Each unit is regulated independently and is fitted with an individual hand pump for emergency use.

By merely removing three screws on top of the cover, any unit may be removed for inspection, repairs or replacement, without stopping the engine, interfering with the regulation or operation of other units, and without draining the reservoir.

This model is made with from one to sixteen feeds and with various types of drives to suit the timing requirements of any type of Diesel or oil engine.

It is manufactured by Manzel Brothers Company, Buffalo, N. Y., who will be pleased to send complete information regarding it.

New Model Manzel Fore Feed Lubricator

Jack for Central Power On Deep Wells

TheMaster Pump Jack, marketed by the Oilwell Accessories Company, 329 East Fourth Street, Tulsa, Okla., was designed to handle deep wells from a central power.

This jack has been used in this connection for nearly two years now and is said to have proven itself dependable for the service.

The jack is of all steel construction, is equipped with adjustment to provide a long and easy stroke. Its large oil reservoirs and removable machined bearings assure economical operation.

More detailed and complete information will be supplied by the company on request.

Oversize Hydraulic Valve Takes Well in Field

The oversize hydraulic standing valve, manufactured by the Houston Pump & Supply Company, Houston, Texas, and distributed by all the major supply houses, is meeting with an enthusiastic reception in the field.

All parts of the valve are machined from the solid bar.

The locking device snaps into place after the valve is made up, and is said to prevent backing off of the lower part of the valve. This feature is of prime importance inasmuch as the vibration in a pumping well tends to loosen this joint in the standing valve.

Oversize is obtained by using a ball and seat that is the next size larger than the standard used in a valve of the same nominal size.

The cage makes up firmly by means of shoulders on the body and cage, giving a secure fit.

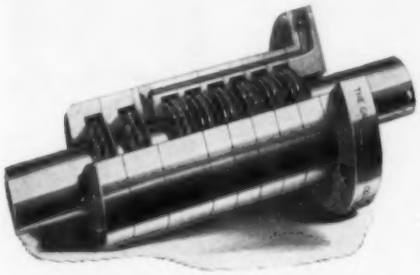
The lower body is threaded for both oversize gas anchor and perforated pipe. This body is 10½ inches long, giving ample space for chain tongs in making up.

A liberal factor of safety has been provided in the design of the valve.

The valve is regularly made in the all-steel, but can be furnished with brass cage and bronze ball and seat if so desired.

Further information can be had from the manufacturers.

Save this issue. It is valuable and you will have several occasions to refer to it during the coming year.



All Metal Compressor Rod Packing

All-Metal Compressor Rod Packing

A new all-metal gas and air compressor rod packing that is meeting with high favor by its many users is being manufactured by The Garlock Packing Company, Palmyra, New York, and serviced through the company's various branches located in the oil and gas fields.

This packing is known as Garlock-875 and is designed to meet the growing demand for a metal packing that is leak-proof against high pressure and has the stamina to give satisfactory service over a long period of time.

The packing rings in the set are twelve in number, all of which are of the same design and can not be incorrectly applied. Two pressure-scraper rings reduce the wear on the packing rings and remove sand and grit from the piston rod is one of the unique features of Garlock-875. Provision is also made for the proper lubrication of both the rod and packing rings. The wearing parts of the packing are made of specially alloyed iron that was developed after a great deal of research and experimental work.

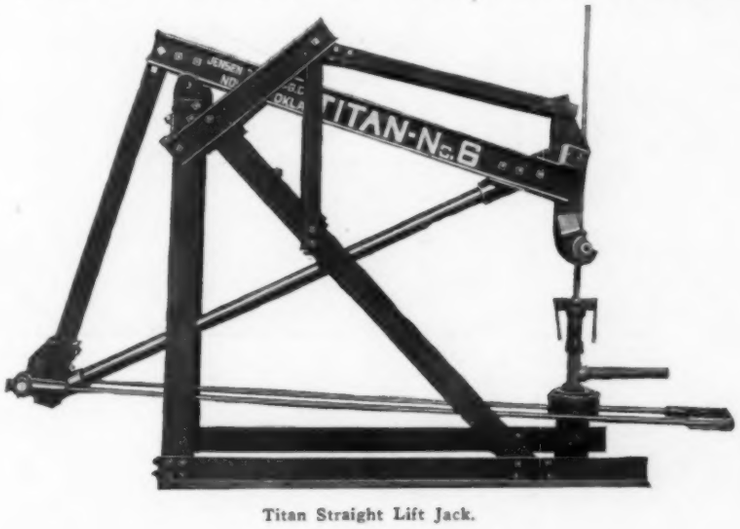
Garlock-875 can be applied to any type of compressor, and full information, including descriptive literature, blue prints and specifications, will be furnished upon application.

Jensen Bros. Offer New Straight-Lift Jack

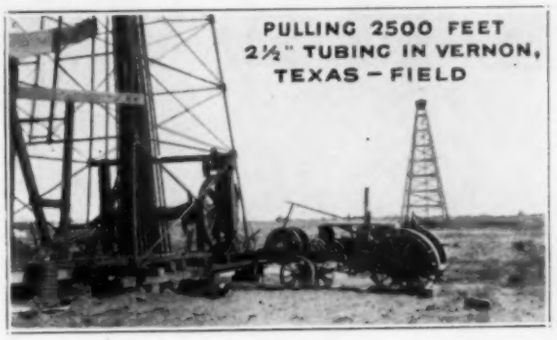
The new Titan straight-lift jack now being put on the market by Jensen Brothers Manufacturing Company, Nowata, Okla., has been developed to meet a demand for an under-pull jack that would stand up under a heavy, continuous strain.

The Titan jack weighs approximately seventeen hundred pounds and has a working stroke of five feet. The straight-line motion of the jack is six and one-half feet and the same sturdy construction that has characterized other Jensen pumping equipment is built into this new model for which a good demand already has been established throughout the field.

With a straight-lift under-pull motion, the Titan jack meets a new requirement in pumping equipment, according to the manufacturers who will be glad to supply further information on request.



Titan Straight Lift Jack.



Clark Machine Company Winch and Spudder

The Clark Machine Company, Wichita Falls, Texas, has had much success with two items introduced during the year, especially in the North and West Texas districts. These include the Clark California Type Heavy Duty Winch on 1730 Minneapolis Tractor and Model 25 Clark Spudder.

Heavy Duty Winch

The heavy duty winch is recommended by the manufacturers as a big step in the solution of deep well pulling, baling and swabbing problems.

The heavy duty four cylinder motor gives a tremendous pull on a single line at a high line speed. An important feature is the two speeds forward and reverse on the drum, which gives a low speed for the heavy jobs and a high speed for light jobs, such as pulling rods and bailing. The high speed is also used for picking up tubing and rods when replacing them in the well.

The drum will spool sufficient line for bailing, swabbing or running tools, in connection with standard derrick in practically any depth of well.

Clark Spudder

The Clark Spudder shows many improvements, including a special patented wire line spudding device, which eliminates vibration and prolongs the life of the machine, an improved clutch, a double pinion arrangement giving individual drives for casing and drilling drum, brake drums machine finished,, brake bands asbestos lined.

More information can be obtained by writing the manufacturers, Clark Machine Company, Wichita Falls, Texas.

Clark Spudder

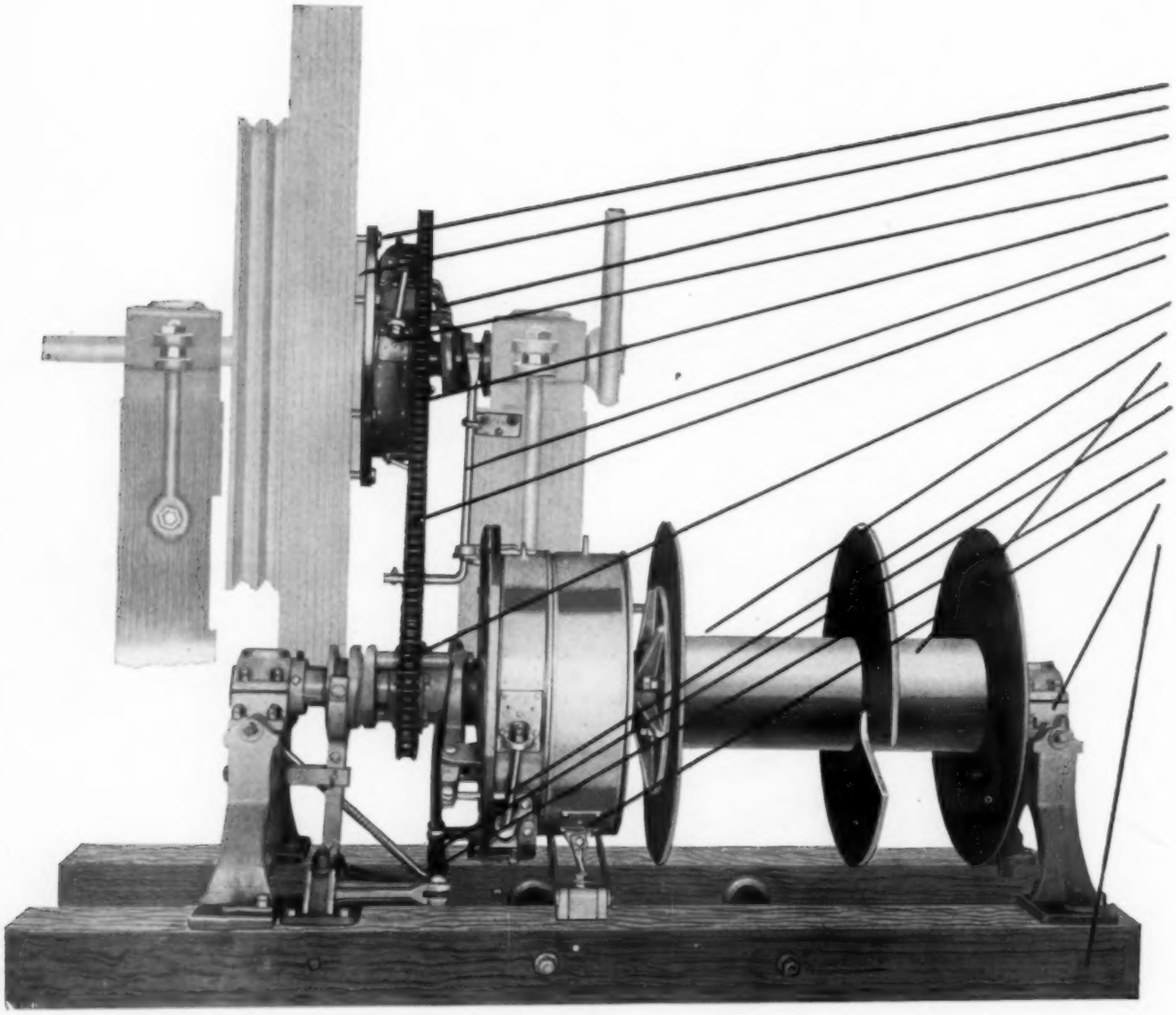
Baroid Used in Wells to Control Caving

Baroid, a product manufactured by National Pigments and Chemical Company, St. Louis, is finding a considerable market in the oil fields. It is used as a wall builder in wells that have caving tendencies.

This product is a specially processed form of barium sulphate which will stay in suspension in water almost indefinitely. It is for use as a mud-laden fluid in the drilling of oil wells.

Baroid has a specific gravity of 4.28, is white in color and being water-ground

THE IMPROVED



(PATENTED)

MODEL 27

Say you saw it in The OIL WEEKLY

S.& B. Chain Driven Sand Reel

MODEL 27

Fits Any Rig Without Alteration

ONE HUNDRED LESS PARTS

Two Piece Driving Flange fits over Regular Rig Iron Flange.

Two Piece Bandwheel Friction Clutch requires 10½" of Shaft space, entirely removable.

Single Adjusting Bolt to compensate for wear.

Flange Keys may be driven without removing parts.

All Breakable Brackets and Levers of Steel.

Diamond Roller Chain for silence, speed and strength.

Machine Cut Steel Sprocket.

Capacity 7,000 feet of 9/16" Line.

Capacity 3,500 feet 9/16" Line.

Single Adjusting Bolt for Clutch.

Single Control Lever for operating Clutch and Brake.

Connection for Safety Line.

Single Adjusting Bolt for Brake.

Heavy Adjustable Bearings.

Steel Sills, Universally Applicable, Portable.

At Supply Stores Everywhere

POPULARITY

The popularity of the improved S. & B. Chain Driven Sand Reel has spread throughout the oil industry almost over night.

Its simplified design . . . its greater efficiency . . . sturdy construction . . . adaptability to any rig without alteration . . . have won instant favor with the oil fraternity.

It has all the advantages of other types with many features not found on any other sand reel.

Write For Illustrated Bulletin

Manufactured By

THE OIL COUNTRY SPECIALTIES MFG. CO.

COFFEYVILLE, KANSAS

Say you saw it in The OIL WEEKLY

and water-floated, 100 per cent will pass through a 300 mesh screen. Its fineness enables it to penetrate under pressure almost any formation encountered in drilling operations. Its gravity is constant throughout the entire column of a well, assuring safety against gas pressure which may develop at any point.

The wall building quilities of Baroid are claimed to be unequalled, while its sliming nature protects the drill stem and both the inside and outside of the casing, preventing friction from the cuttings which emerge from a well.

Baroid is inert under all conditions and is non-poisonous, non-electrostatic and non-electrolytic.

A large number of oil drilling companies throughout the Mid-Continent, Colorado and Wyoming fields have been using Baroid with success.

Further information can be had from the company.

New Device Measures Deep Wells Accurately

The Halliburton Measuring Device has recently been placed on the market by the Halliburton Oil Well Cementing Company, Duncan, Oklahoma. It was designed primarily for use with the Halliburton Oil Well Cementing Process. It provides, however, an improved method for measuring walls generally, and for this reason has been placed on the market for the general trade. Its sale is limited by the stipulation that it will not be used in connetcion with cementing operations. A piano wire takes the place of the flat measuring line which has been commonly used. This reduces both the weight and the cost of the measuring line, and eliminates approximately two-thirds of the line friction in the well. It is thus rendered possible to measure accurately by hand to depths of six or seven thousand feet, without difficulty.

After leaving the reel the piano wire passes entirely around a sheave which is coated on the outside with an extremely hard metal known as stoodite. This reduces the possibility of any wear on the measuring member. This measuring member is of such diameter that when the wire is drawn taut around it, a line running through the center of the wire describes a circumference around the measuring member exactly two feet in length. An automatic counter registers each half revolution of the measuring member, that is, counts each foot of line as it passes. The counter thus registers at all times the exact number of feet paid into the well.

The measuring unit has two retaining wheels which are adjustable so as to maintain a slight pressure on the line and prevent any possibility of its slipping on the measuring member. By loosening the retaining wheels the wire can be removed from the measuring member.

Sand Tester

The measuring member is counter balanced in such a manner that it can swing back and forth horizontally and remain at all times in alignment between the well and the point at which the wire is leaving the reel. The counter-balanced arms supporting the measuring members are set slightly further apart on the stationary arm which supports them than at the point where they suspend the measuring member. By this means the measuring member as it swings back and forth is kept in exact alignment with a point 12 feet distant representing the well.

Further information can be had from the company on request.

Sand Tester

The Halliburton Sand Tester, a device recently introduced to the industry, is an apparatus run on the end of the drill pipe to test the sands encountered in rotary drilling.

It consists essentially of a bevel packer to fit in the top of the rat hole, effectually sealing off any mud.

Below this packer and attached to it is a perforated pipe for free entry of fluid into the drill stem. In the body of the tool is a three-quarter-inch stop-cock which is operated by turning the drill stem one quarter turn.

The stop cock is closed when the drill pipe is run into the hole leaving the drill stem empty when the packer seats on the shoulder of the rat hole. A quarter turn of the drill pipe to the right opens the stop-cock, allowing whatever is in the sand to enter the drill pipe. Under this condition the same effect is secured as though pipe had been set and the hole bailed.

After allowing the device to set a suitable length of time the stop-cock is closed by turning the drill stem a quarter turn to the left, trapping any fluid that might have entered the drill pipe. The drill pipe is then pulled out of the hole and whatever is in the drill pipe is an accurate sample of what is in the sand. The method of testing shows up gas as well as water or oil and makes an easy test of all sands encountered in wildcat drilling.

The device can be run in any size hole or casing by use of the proper size packer, and can be run on any size drill pipe by use of the proper size swedge nipple

Further information may be obtained by addressing the Halliburton Oil Well Cementing Company, Duncan, Oklahoma.

Halliburton Measuring Device

Tips Diesel Type Drilling Engine Stands Tests

The Tips Engine Works, Austin, Texas, has just completed a series of exhaustive drilling tests in various fields.

The purpose of these tests was to show the ability of the Tips two-cylinder, two-cycle Diesel drilling engine to meet successfully the most rigid requirements of drilling power.

The result of these tests have led the Tips Engine Works to open sales offices at 329 East Fourth Street, Tulsa, and 316 Main Street, Ranger, Texas, and they will devote a considerable share of their manufacturing capacity to the production of Diesel type drilling engines.

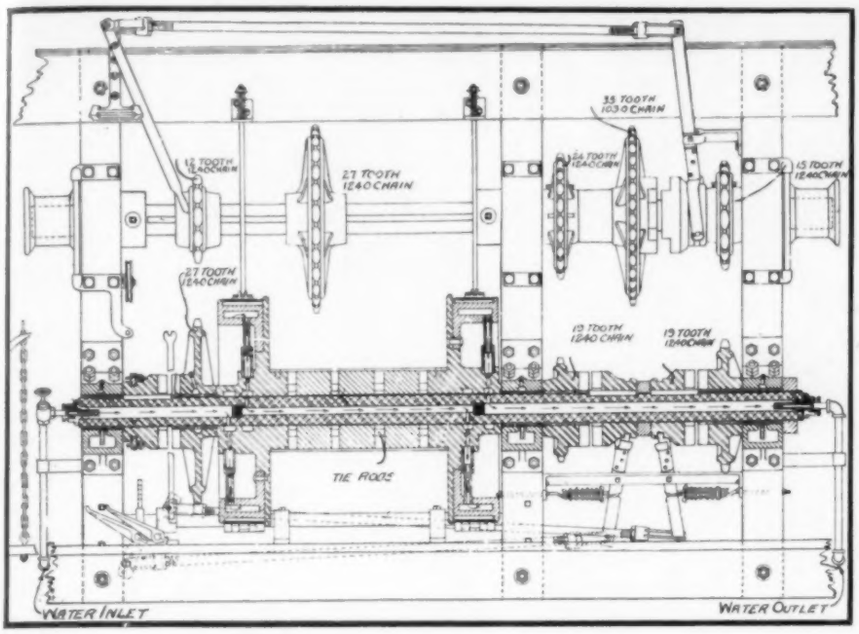
This engine is a two-cylinder, two-cycle Diesel, burning low grade fuels and giving a power impulse at every stroke. This means a smooth, instantly responsive flow of power to its full 80 horsepower, with an appreciable overload capacity beyond its rating.

The throttle control is simple, instantly responsive and in changes from no load to full load the power flow is smooth and constant without any tendency to over-run.

The peculiar construction of the cylinder head, exclusive to the Tips, is of a nature that expansion and contraction is taken care of by a completely water-jacketed combustion chamber, to the extent that the proper temperature is evenly maintained under all working conditions. This feature has practically eliminated trouble from cracked cylinder heads and difficulties arising from a too rapid temperature change in the combustion chamber.

The 80 horsepower Diesel Type Tips Engine is a compact vertical unit, easy to handle and to mount for use in the field.

A new descriptive catalogue of the entire line of Tips Diesel Type Engines will be mailed free from any of the offices.



Beaumont Iron Work's Draw Works.

Beaumont Iron Works Has Long List of New Items

A new development in a Rotary Draw Works has been introduced by the Beaumont Iron Works Company. The design of this machine provides for circulation of water through the brake flanges for the purpose of cooling so that brake action will be uniform and provide safe and positive operation.

This cooling arrangement is being furnished on the Dreadnaught three-speed heavy duty type of draw works, and has been very favorably received by the rotary operators throughout the Gulf Coast and Mid-Continent sections. The water circulation is obtained by a connection with the boiler feed pump, or clear water line, and is introduced to the hollow brake flanges through a hole bored through the center of the drum shaft. The circulation passes around the entire circumference of both brake flanges, thus keeping an even temperature at the point of frictional contact. The water outlet is located at the left end of the shaft near the drillers' position so that the flow can constantly be observed. A valve at the intake end permits regulation of the flow if desired. A special swiveling stuffing box is provided at either end of the shaft to afford leak proof connections for the entrance and exit of the water.

The design of the conventional draw works generally calls for such heavy construction that the large volume of metal in and around the brake flanges is due to develop enormous heat from the friction of the brake bands. Occasionally this heat develops dangerous tendencies as well as burning the brake bands repeatedly and presenting uncertain action of the brakes. The Beaumont Iron Works Company have been working on this cooling idea for several years and as a culmination of their efforts have brought out the water cooled draw works, which has met with most instant success. With this type of machine there is no excessive heating while running in or coming out of the hole, with assurance of dependable brake action at all times.

Traveling Blocks

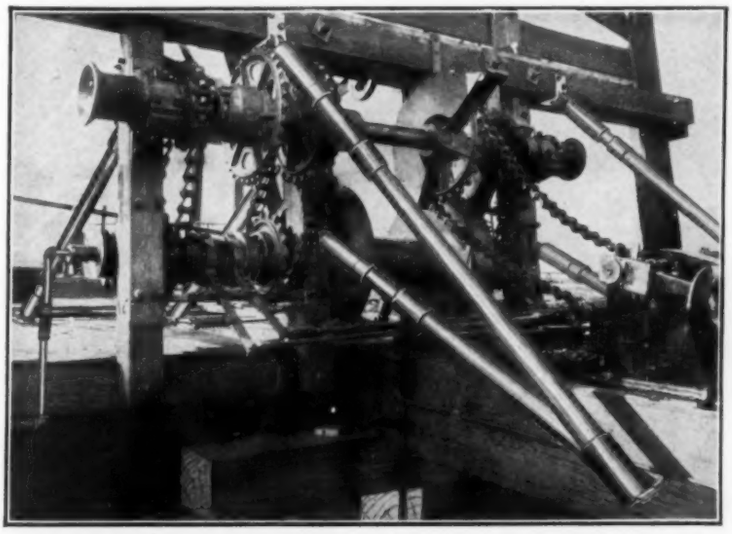
Traveling blocks with Timken roller bearings have recently been added to the line of rotary products manufactured by Beaumont Iron Works Company.

These blocks are made in 66-inch and 72-inch sizes in combinations of 3, 4 or 5 Sheave assemblies.

A noticeable part of the block is the one-piece becket which combines the space-blocks with the top clevis or bail. The sloping edges have been designed to serve as a guard to prevent catching in the derrick. For this same purpose a length of steal channel is used in addition to the usual strap reinforcements along the sides of the shell.

The sheaves are made of elctric high manganese steel cast in the company's steel foundry at Beaumont. The Timken roller bearings are classed as the heavy duty type which are especially approved for this class of service.

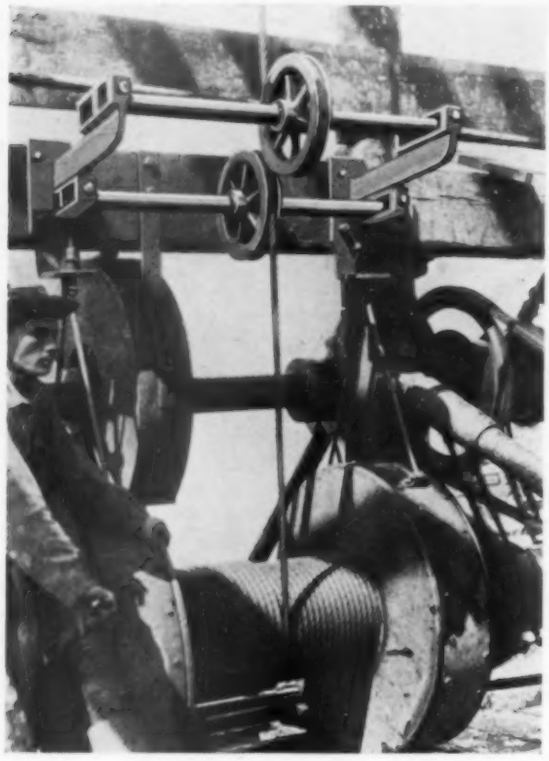
Dreadnaught Traveling Block



Yount Tubular Draw Works Braces

Draw Works Brace

An improvement in the method of bracing the draw works has been introduced by the Beaumont Iron Works Company, consisting of lengths of



Yount Wire Line Guide

heavy pipe fitting at each end with steel feet, which are bolted solidly to the timbers.

The illustration shows the method of installation. These adjustable braces applied front and rear steady the draw works so that it runs surprisingly smooth and quiet. The hinged joints provide a wide range of application and the tubular construction and taper-pin fit at the joints give very rigid support.

All parts are made of electric steel. The four-inch heavy pipe is usually cut to fit and furnished by the user, making them adaptable for use on any draw works. Application is also employed for bracing the sampson post on pumping rigs with equal success.

Yount Wire Line Guide

The Yount wire line guide came about from attempts to prevent imperfect spooling of the wire line.

This "Dreadnaught" product offers the means to keep the line perfectly spooled. Regardless of the speed the line weaves smooth and even on the drum. The action is governed by a very slight tension on the sheaves which are mounted free on the shafts over the draw works drum.

It may readily be seen that the line kept in close but almost frictionless contact at this point, eliminates the abusive whip and gaps which with constantly changing load strains are responsible for the excess vibration and often result in stranding of the wire line.

The threaded mountings of the shafts provide adjustment of the sheaves to the exact direction of the line. The action of the guide in spooling is entirely automatic.

Proportions provide for spooling drums up to 42 inches in width with brackets which permit mounting on the headboard of any rotary draw works.

Swivel Ell

A new fitting known as the swivel ell serves the suction end of the rotary slush pump to provide means of adjustment for depth of the suction line in the slush pit.

Provision is made for packing the connection after the fashion of an expansion joint which assures a leak-proof, flexible joint for raising or lowering the suction line.

This fitting is made of electric steel to withstand the excessive vibration of operation. The six-inch size fits standard models of slush pumps, the flanged end bolting direct to the intake end of the pump.

Hoisting Unit

The hoisting unit consists of a wire line drum provided with double brake flanges, and is installed in usual practice at the completion of the well. Being direct driven from the sprocket provided on the power unit or geared reduction unit, it has but one positive clutch and brake lever which are arranged for easy control from the derrick floor.

Automatic Grease Pin

The automatic grease pin is distinctive on Dreadnaught tubing blocks.

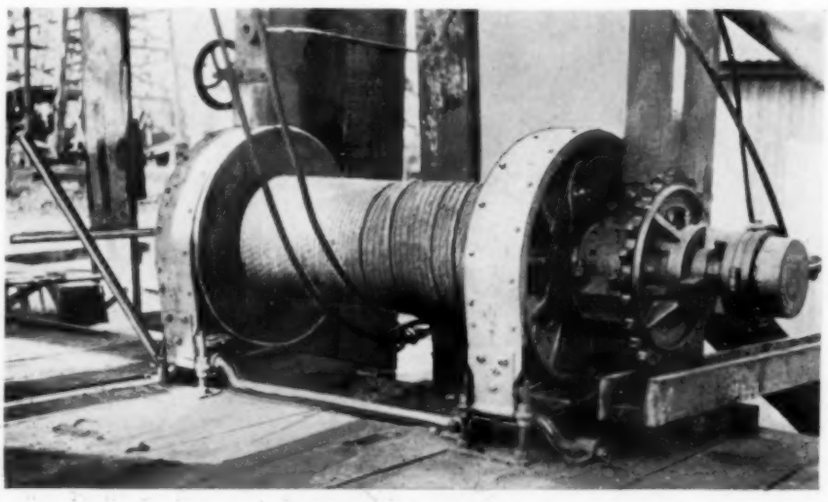
Sheaves are bronze bushed with machined rope grooves mounted on the patented center pin, which provides an oversize bearing and assured adequate lubrication to all bearings, whether one or three sheave. The center pin houses

Dreadnaught Swivel Ell.

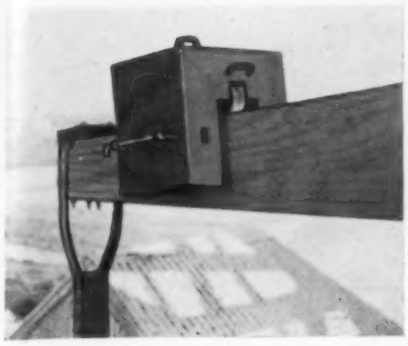
the supply of grease and is provisioned with an independent grease press for each sheave. A turn of the center shaft forces the lubricant to the sheave bearings in one simple operation.

Dreadnaught Tubing Block with Automatic Grease Pin.

These blocks are made in both 30-inch and 36-inch sizes, which are adapt-



Dreadnaught Pumping Hoist.



Yount Counterbalance.

ed to handling tubing jobs from the smallest to the largest.

Yount Pumping Counterbalance provides a means to balance the load of rods and fluid to make the pumping stroke smooth and even at all times.

This appliance is made to fit the conventional walking beam and heavy enough to serve as a balance for a variation of pumping wells though its application to deep well pumping is more general.

In advance of the usual counter weight for this purpose, this new product is provided with rollers which serve to permit easy adjustment to the exact position along the beam for most efficient operation, and also eliminates the necessity of dismounting from the beam when it becomes necessary to pull rods or tubing. The mounting rollers make it a simple matter for one man to move the weight along the beam. Two screws provide means of fixing to the beam at the correct position. When pulling rods the counterbalance is rolled to the center, directly over the saddle and anchored so that the beam may be swung back out of line of operation.

Yount Cat Line Spool

The Yount cat line spool and protector is another Beaumont Iron Works product that is gaining in favor among coastal operators.

A semi-steel spool mounted on a steel shaft supported by brackets over the cat head serves as a guide for the cat line for which a line to the cat head is used.

The protector or side spool provides protection for No. 1 draw works post and permits rapid action when making-up or breaking-out pipe from the cat head, without useless wear to the cat line.

Yount Slip Bowl

The Yount Slip Bowl a new fitting is in the form of a combination cross made of cast steel for use on the Christmas tree for flowing wells.

Unique advantages of this new fitting provide for suspending the drill pipe with the regular rotary slips, thus permitting convenient means of handling emergencies of a flowing well.

Installed at the time of setting the casing, it permits a means of control while washing and bringing in the well.

The upper outlet is threaded for an eight-inch bull plug which permits closing in the well for flowing. The threaded section does not interfere in any way with the tapered bowl and the operation of the slips.

Dreadnaught Ball Bearing Hooks.

Great numbers of these slip bowls are being used in the rotary districts where large producers are being encountered, and they are rapidly gaining favor for safe and efficient handling of flowing wells.

Tubing Tongs

Dreadnaught tubing tongs have a circular jaw to conform to the curve of the pipe. The handle is interchangeable to the various sizes, ranging from two-inch to three-inch.

These tongs work equally well as go-round tongs or ratchet-wise. The illustration shows the principle, the twist tightens their grip.

Dreadnaught Tubing Tongs.

These tongs are made of electric steel with especially hardened jaws. They are light enough to handle easily with one hand.

Ball Bearing Hook

In the new Dreadnaught ball bearing hook, the bearing is entirely enclosed and completely shrouded with grease.

The bearing is Fafnir ball. The swedged case of the hook houses sufficient lubricant to last indefinitely.

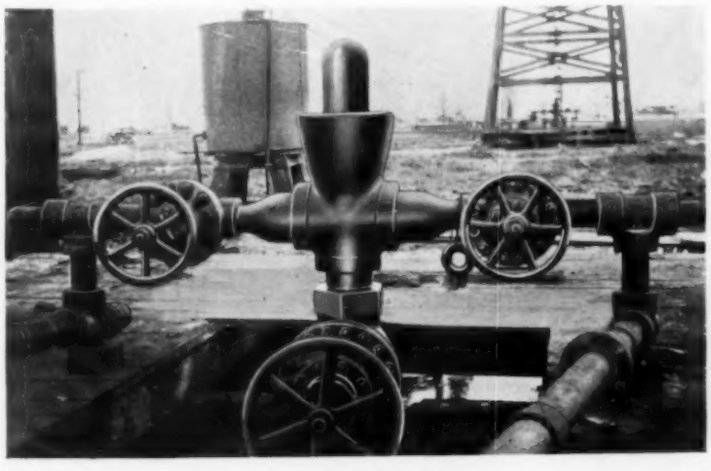
Information and detailed literature on all these products may be obtained from The Beaumont Iron Works Company, Beaumont, Texas.

Nye Tool and Machine Works Offers Threading Device

Nye No. 2 geared threading device, an improved product of the Nye Tool and Machine Works, 1420-3 Fullerton Avenue, Chicago, Illinois, is featured as a threader of unusual ruggedness.

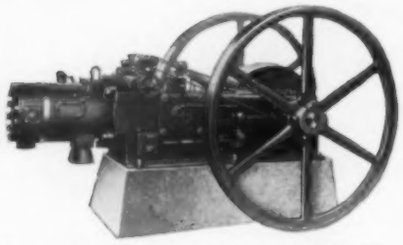
On account of its geared feature it is easily operated by one man. A ratchet handle and a spider hub threaded for one-inch pipe is furnished as standard equipment.

More information will be supplied by the company upon inquiry.



Yount Slip Bowl.

Nye Threading Device.



Bessemer Enclosed Case Oil Field Engine.

Bessemer Gas Engine Adds Several New Items

Bessemer Gas Engine Company, Grove City, Pa., has added several new products to its already well known line of equipment used in the oil country.

The Bessemer enclosed case oil field engine is claimed to be the latest development in oil field power plants, embodying numerous mechanical refinements.

The bed plate is of the enclosed case type, using bored crosshead guides with bearing jaws of the same type used on the more expensive enclosed engines. The mixing valve is on top of the bed plate and the crank case hood is of heavy sheet iron.

The main bearings are removable and adjustable with the bearing shell cast with dovetail anchor holes to hold the babbitt firmly in place. Adjustment for wear is easily made and the bearings can be removed for replacement when and if necessary. These bearings are amply oversize to give the longest possible wear.

The crank shaft is a duplicate of that used in the more expensive engines, with the added feature of balancing counter weights. The crank shaft is of heat treated steel of unusual strength and has a wide margin of surplus strength for even abnormal running conditions. For instance, on the 30 horsepower engine the shaft has a 5-inch diameter with a bearing length of 1½ inches while the crank pin is 5½x4½ inches.

The connecting rod of the Bessemer enclosed case oil field engine is of the marine type, forged from 30 pt. open hearth steel and is finished all over. In design and construction it is safe against any load that can possibly be transferred through it in actual service.

Crosshead construction is used in this new engine as in all Bessemer engines of this type. The crosshead construction is of the adjustable shoe type with the shoes adjustable at both top and bottom. While this is a more costly method of production than has heretofore been used in oil field engine construction, Bessemer quantity production has made it possible to incorporate this feature. Ready access to the crosshead is made possible through a large removable side plate on each side of the bed plate.

Another View of Bessemer Oil Field Engine.

The stuffing box is metallic of the well known floating type which has been built into Bessemer engines of this type for years. It is built as a part of the flange which separates the mixing chamber from the bed.

The cylinder of the new oil field engine is similar to that of the big Bessemer Type X compressor which is known throughout the oil fields. The flange on the side of the cylinder has been flattened out, to correspond with the width of the bed which is made as narrow as practicable. The cylinder is secured to the bed by means of six bolts, three on the top and three on the bottom. This reduces the weight of both the bed and cylinder materially. The cylinder head ends permit the water to flow from the cylinder head through suitable ports into the cylinder, a construction which permits the use of the standard cylinder head used on the regular Bessemer enclosed case engines. There is also a hand hole plate on each side of the cylinder so that easy access can be made to the water jacket when necessary.

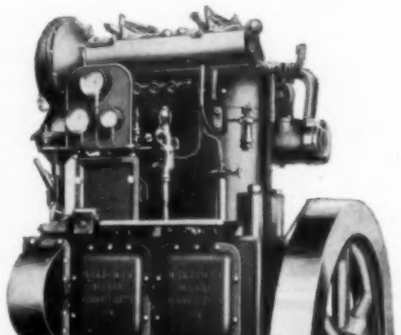
The air valve on this engine is of unique design developed after much study and many experiments. The gas chamber is connected diametrically across the valve body under the seat with the holes drilled from the valve seat into this chamber so that both discs have their own individual gas opening. Thus when either of the discs is raised from its seat, both air and gas are admitted in the correct proportions. This type of valve overcomes any possibility of failure to start when only one disc is opened.

Lubrication is combination force feed and splash with the cylinder and eccentric lubricated by force feed, and main bearings, crank pin, cross head and slides lubricated by a continual bath of oil from the splash in the crank case.

Ignition is by means of the Wico system and the engine has a dependable improved governor which is positive in its action.

Four Cycle Tandem Compressor

Another new product brought out by The Bessemer Gas Engine Company is the Four Cycle Tandem Compressor. This unit combines a single cylinder four-cycle power unit direct connected to a tandem two-stage compressor. The power cylinder is built with the crosshead construction typical of all Bessemers, oversize bearings, entirely enclosed case and other features and has a simplified valve assembly with the fewest possible number of moving parts. The engine is of the side crank type and is built with one fly wheel mounted on the crank shaft which has an outboard bearing to support the other end of the shaft. The main frames are built in two pieces, the crank case and the crosshead guides. Both of these are of massive gray iron castings of great rigidity. The crank case member carries the main bearings and the compressor crosshead guides. The crosshead guide member of the main frame carries the main crosshead guides and acts as a housing for the cylinder liner as well. A diaphragm located between the crosshead guide and the end of the cylinder liner separates the cylinder from the crank case. These two crank members are securely bolted together and doweled so that they have the rigidity and ruggedness of a single unit. The main bearings are of the quarter box type, each bearing consisting of top box, bottom box and inner and out quarter boxes. At the back of the outer quarter box which receives the thrust of the power cylinder, there is an accessible wedge for adjustment. The compressor corssheads on these direct driven units are also of one-piece steel casting. Like one main crosshead, it has two bronze shoes and also two arms which correspond to the arms on the man crosshead. The main or engine crosshead and the compressor crosshead are connected by two side rods. One side rod passes over the crank shaft just back of the crank, while the other is diametrically opposite the first and passes through the crank case and outside of the center of the crank shaft. Both of these side rods are supported by guides which prevent deflection, keeping the crossheads from turning.



Bessemer Type DH Diesel Engine

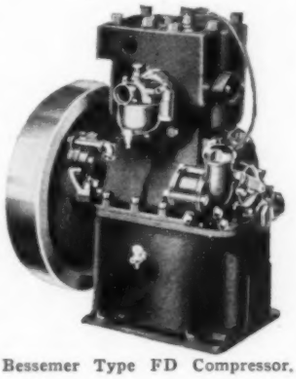
Inlet and exhaust valves are both vertical and are mounted in cages which may be removed from the cylinder head without disturbing any pipe connections. The exhaust valve cages are water jacketed. Each valve stem is fitted with a crosshead which slides in a guide in a valve cage and each valve cage has two arms which carry the fulcrum pins for the valve levers. The compressor cylinders are of the valve-in-head-type with each cylinder consisting of a central barrel section to which are bolted the two cylinder heads. The central barrel has the openings for the suction and dis-

charge pipes. These are located on the top and bottom of the casting, respectively, and open into passage ways which connect with the suction and discharge chambers in the heads.

The Bessemer disc valves used in all cylinders consist of a circular cast iron body or seat through which the gas passages are cored. One face of the body is ground to form a seat for the disc. Holding the disc to its seat is a helical steel coil spring which is guided and held in place by a drop forge steel case.

Bessemer Diesel

The addition of the Bessemer Type HD Diesel engine for stationary work makes available a highly effcient Diesel power plant in smaller units for all types of stationary work. The new Type HD Bessemer is built in sizes of from 40-170 horsepower. They employ the solid injection of fuel oil by means of a simple, perfected, high pressure mechanical pump, a method which eliminates the high pressure air system and assures dependable, trouble-free injection of the fuel oil. These engines are built to the highest standards throughout. For instance, the crank shaft is of American Shipping Bureau grade steel or Lloyds Grade B, heat treated and counterbalanced by compensating sheets.



Bessemer Type FD Compressor.

The wrist pins are of special case hardened steel, ground to a finish with a tolerance of .0005 inch. The connecting rods are of the same grade steel as the crank shaft and the cylinder heads are cast from semi-steel and contain the inlet and exhaust valves and injector nozzle.

The economy of these engines is marked by their low fuel oil and lubricating oil consumption. For instance, 42 pound for B.H.P at full load, .42 pound for B.H.P at three-quarter load, .46 pound for B.H.P. at half load. The sizes of these engines are single cylinder, 40 horsepower, two-cylinder, 85 horsepower, three-cylinder, 125 horsepower, four-cylinder, 170 horsepower.

Compressor

The FD Compressor is a small auxiliary type compressor for supplying compressed air for starting larger engines and is also used as a test unit for determining the air pressure required on oil sands. The new FD Compressor combines in one small compact unit an efficiet gasoline or gas burning engine, direct connected to a sturdy compressor. The compressor has a displacement of 9.74 cubic feet of free air per minute at 600 r.p.m. and a displacement of 11.45 cubic feet at 750 r.p.m. It is designed to furnish air up to 150 pounds pressure. The weight of the compressor unit is but 300 pounds, permitting easy distribution under any field conditions.

Another feature of this small unit is that it is built 80 per cent of Ford parts so that repairs can be secured at any four corners where there is a Ford service station.

Supplementary information on all these products can be obtained through communication with the Bessemer Gas Engine Company, Grove City, Pa.

Smith Separator in Two New Models

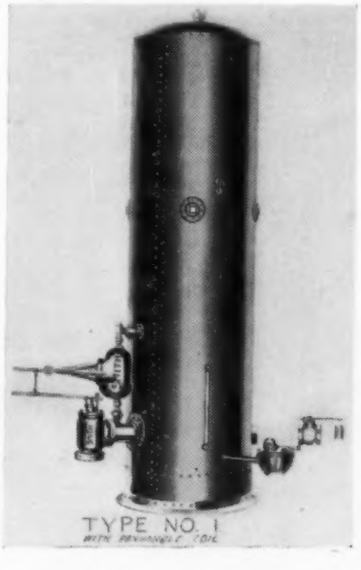
Indicative of the advancement being made in creating equipment for the more efficient conservation of oil and gas through separation at or near the casing head, are two new types of Smith Separators.

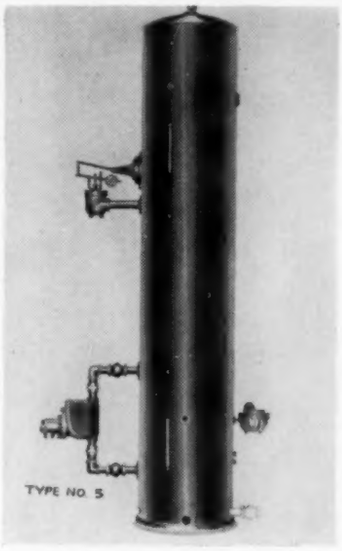
The first is the Type No. 1, Smith Separator, equipped with Panhandle coil. This sepraator is designed to increase the efficiency of handling oils carrying a heavy paraffine content, which at low temperatures, present difficult problems of separation.

The No. 1 Smith Panhandle coil equipped, solves this problem through the use of steam coils for maintaining a temperature within the tank high enough to make possible complete and efficient separation of the oil and the gas.

This separator is widely used in the fields of the Panhandle of Texas and other fields where paraffine conditions predominate.

Another new unit is the Type No. 5 which is so designed to handle and separate the oil, water and gas. Its capacity is 500 barrels of oil, the same amount of water and one million feet of gas. The tank size is 3 by 16 feet, and it works at pressures up to 50 pounds.





The upper portion of the separator is similar to the regular No. 3 Smith, and the lower section of the tank is for the handling of the water with a float control which maintains a constant level within the tank, surplus water being handled through a water outlet which is automatically regulated.

These two new types of Smith oil and gas separators have proven through the service they have rendered, to be splendid contributions to the advancement of oil and gas conservation.

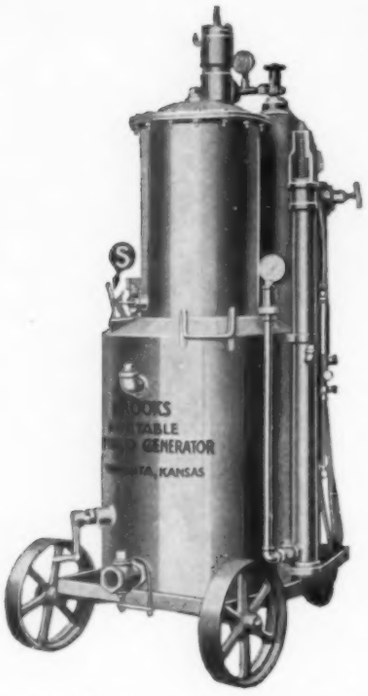
A new catalogue covering the entire Smith separator line may be secured by writing Smith Separator Company, Tulsa.

Brooks Offers Portable Acetylene Generator

The new Brooks portable field generator for oil field, pipe line or any field welding or cutting use is being manufactured and sold by the Brooks Machine Company of Wichita, Kansas. This machine also can be used for inside shop work and may be had either with or without a shop truck.

The Brooks generator is built in 25 and 50-pound sizes, the capacity of the former size being 125 cubic feet of pure acetylene gas with one filling of carbide and water, or with two fillings of carbide and one of water it will make 250 feet of gas. The 50-pound generator makes double the above amounts of gas. The water sealing device has a waterproof gasket attached and by turning the eccentric the device moves upward against the mouth of the hopper, sealing it absolutely water-tight. By reversing the eccentric the sealing device is lowered.

The Brooks generator may be filled with water and carbide and hauled anywhere with perfect safety. The portable



feature of this generator has made it very popular among oil and pipe line companies.

Further information may be obtained by communicating with the manufacturers direct.

Foos Light Diesel for Pipe Line Service

The increasing popularity of the Diesel engine for pipe line service has presented a demand for a light weight, medium high speed unit to assist in taking care of the peak loads, and act as an auxiliary unit on the pipe line in event the main unit should become overloaded or meet with trouble.

In view of this, the Foos Gas Engine Company, Springfield, Ohio, has announced to the oil field trade their latest development, the Foos Type L Diesel engine, embodying all the features, as obtained through 40 years experience in the design and construction of internal combustion engines, which assist in giving economical and dependable operation.

Foos Light Diesel for Pipe Line Work.

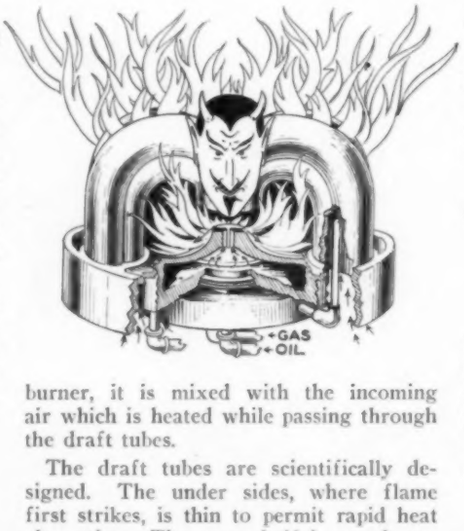
The Foos Type L Diesel engine is a four-cycle, solid injection engine using the dual valve system and burning all grades of commercial crude and fuel oils. The unit weighs 60 to 30 pounds per horsepower and has a rating of 40 to 475 horsepower with a speed range of 400 to 900 r.p.m.

More detailed data may be secured by writing The Foos Gas Engine Company, Springfield, Ohio.

Red Devil Combination Gas-Oil Burner

Considerable experimenting has been done by the Red Devil Oil Burner Company of Wichita, Kansas, in developing a combination oil and natural gas burner to combat the irregularness of the gas supply in cold weather.

The oil burner is a super-heating type. Oil is taken into the bottom of the burner rising up under a baffle plate and is forced to outside of the super-heating chamber at this point, where the oil strikes the hot surface of burner, it is transformed into a highly combustible gas, readily ignited. As this gas passes from the orifice in the center of the



burner, it is mixed with the incoming air which is heated while passing through the draft tubes.

The draft tubes are scientifically designed. The under sides, where flame first strikes, is thin to permit rapid heat absorption. The upper half is cast heavy to retain the heat. At the point where the air first enters the draft tubes the opening is round, at the discharge throat the opening is flat, causing a swirling of air.

The gas burner sets directly under the oil burner and the gas jets extend up into draft tubes. When the oil is turned off and the gas turned on these draft tubes function as air mixers.

This underslung feature of the gas burner protects it from the intense heat of the oil burner.

The gas burner is usually used to first heat up or generate the burner for oil.

More information can be had from the company on request.

Non-Corrosive Ball and Seat Made by Hough

The Repelex ball and seat represents one of the newer items now being marketed by The Charles N. Hough Manufacturing Company of Franklin, Pa., through its dealers. The reputation gained by Steelex and Bronzex balls and seats, made and designed for specific problems, led producers to request that the same organization put on the market a non-corrosive ball and seat of equal quality and wearing ability. This led to the introduction of the popular Repelex ball and seat designed for use in wells where exist a surplus of acid or other strong elements.

Repelex is a packaged ball and seat, both ball and seat being carefully packed against damage.

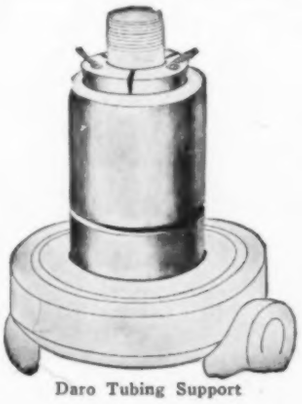
More information can be secured from the Charles N. Hough Manufacturing Company, Franklin, Pa.

B. & A. Specialty Company Has Three New Items

The B. & A. Specialty Company, 404 West First Street, Tulsa, is now marketing three new items of equipment that are finding a good sale. These include the B. & A. Safety Sucker Rod Elevator, the Daro Tubing Support and the B. & A. Back Pressure Valve.

Rod Elevator

In the elevator a new principle in elevator construction is embodied which



Daro Tubing Support

B. and A. Sucker Rod Elevator

places all the weight being carried below the point of suspension.

It is claimed that rods cannot hang in uneven strain in this elevator, thereby eliminating kinking of rods.

One elevator fits all sizes of rods. Special plates are made for Titan rods.

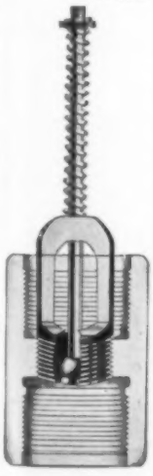
Safety latches are placed on the elevator one above the other, each entirely closing the opening, preventing rods from twisting out of the elevator if the hook does not swivel.

The manufacturer states that the elevator can be handled while in operation with gloves or mittens as easily as without them.

Daro Tubing Support

The Daro Tubing Support is composed of three pieces, ring, body and slips. The ring has two sets of packing, one packing around the tubing and one sealing between the casing-head top and the ring. This support is recommended for use on wells on which the vacuum is being held or on gas wells.

Back Pressure Valve



B. and A. Back Pressure Valve

For use on tubing in wells in which the air or residue gas is being introduced for flowing the B. & A. back pressure valve is recommended. This valve is said to maintain the pressure on the sand at all times, even if the compressor breaks down. A special type of seat and valve permit all scale to pass through.

Further information on all these products can be obtained from the company on request.

Burt Swab Is Efficient at All Speeds

Made with one-piece body, the Burt swab has no joints to loosen and no long threads to screw cup over in changing rubbers, according to the manufacturers, the Burt Corporation of Tulsa. The swab is forged from high-grade steel and has a special oil-resisting composition rubber that is especially made for the company. The Burt swab is made in all sizes.

The design of the rubbers on the swab is original and reduces wear as well as power required to operate. Two rubbers are used so as to afford a minimum of slippage of fluid when passing the joints in the casing as the contact point on the rubbers is very narrow with an angling surface exposed to the casing. The action of the rubbers is automatic as they are expanded by the weight of the fluid and the rubber offers no resistance when the swab is lowered into the hole.

The Burt swab can be used with a gas engine or electric motor as its efficiency does not depend on high speed in pulling. All parts are locked in place with jam nuts with ball and seat type valve used with a large area.

Further information may be obtained by communicating with the company direct.

Ward Chemical Company Offers Suspensoid

The Ward Chemical Company, manufacturing chemists of Tulsa, are now marketing Suspensoid, an oxide of iron of high iron content so treated as to remain in suspension in oil or water. When mixed in the right proportion with the liquid it penetrates and seals off gas bearing strata. Building a firm erosion-resisting arch, the sliming qualities of Suspensoid cause it to leave a film on the casing, reducing friction and damage from cuttings.

Because of its high specific gravity, cuttings rise quickly to the surface, mud remains soft and fluid fishing becomes simple and much easier. When properly used Suspensoid will prevent a well from blowing wild.

More information can be had from the company, at Tulsa.

Triplett Underreamer Has Surprising Speed

A new type of underreamer, invented by James B. Triplett, was used on the Walter P. Temple No. 1 well on Linden Avenue, Long Beach, and incited much favorable comment for its surprising speed and clean-cut performance.

The crew operating the Triplett underreamer successfully underreamed 175 feet of hole from seven and three-fourths inches to nine and one-half inches with but one set of cutters.

The main body of the Triplett Underreamer consists of two parts, driven by a spline-joint, and so designed as to attain four inches of travel. The top, or male member of the spline has three tapers on the lower end, and in the face of each of these tapers, a female dovetail is cut. The bottom of the female member of the spline has three apertures, corresponding to the face of these tapers. Fitted into each, is a block, on the bottom face of which is a male dove-tail; these blocks support the cutters at their top speed. The lower end of the cutters are pivoted in the bottom member of the underreamer body.

There are left hand threads cut on the top end of the bottom member, and a sleeve slides over the top member, engaging these left hand threads. This allows for the four inches of travel necessary to permit the expansion and contraction of the cutters. By lifting upward on the top half, the small end of the taper is caused to be in a position under the block supporting the top ends of the cutters to be contracted. The weight of the drill pipe forces the top member down, so that the largest part of the taper is under the blocks, expanding the cutters.

This expansion is made possible by the design of the bit below, which, when rotated to

the right has a tendency to raise the bottom member.

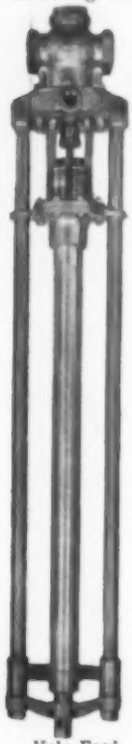
The Triplett underreamer is equipped with roller cutters, and an inch or more expansion is allowed. The cutters are set in the expanded position, at an angle of 15 degrees.

Circulation is established directly through each aperture, keeping the cutters washed clean constantly. The circulation also extends to the bit below.

Further details can be secured by writing the H. C. Smith Manufacturing Company, Whittier, California.

Volz Engineering Offers Two New Items

Volz Engineering Equipment Company, 2719 Houston Avenue, Houston, is now marketing two items that have special interest for oil operators. These include the No. 33 Combination Gas and Oil Carburetors, and the Automatic Feed Water Control No. 2 for use on horizontal return tube boilers.



Volz Feed Water Control.

Carburetors

It is said that one of these carburetors burning gas will easily handle an 80 horsepower boiler, and with fuel oil of the lowest grade, it will take care of a 100 to 125 horsepower boiler.

The carburetor burns oil or gas alone, or a mixture of the two in any ratio.

The air damper controls the amount of air needed. The amount of gas required is controlled by screwing the large bulbous body backward or forward as necessary. The gas line below holds the carburetor steady.

Boiler Feed Water Control

The boiler feed water control is simple to install. It holds high and low water level to less than one-half inch, according to its manufacturers, and holds variation in steam pressure to less than five pounds.

Combination Carburetor

There is a compensating device which takes up excess contraction pressure when the boiler is shut down and consequently resumes working adjustment automatically. It is advisable to open the blow-off valve for a few minutes when resteaming the boiler in order to speed circulation through the control system.

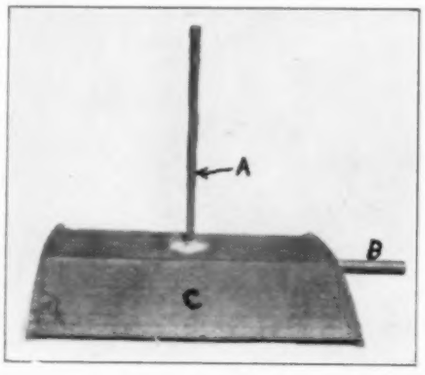
Peters Tank Baffle.

Peters Tank Baffle Is Oil Saver

The Peters Tank Baffle, made by the A. R. Peters Company, Winfield, Kansas, and distributed by Frick-Reid Supply Company, is described as a practical and economical device for draining the B. S. from oil tanks.

This apparatus is quickly installed and is said to save from five to 20 barrels of oil each time a tank is cleaned.

More information is obtainable on request from the distributors.



Peters Tank Baffle.

Oklahoma Iron Works Improves Steel

Advancement in processing steels for more efficient use of the oil industry has been the work of the technical staff of the Oklahoma Iron Works for the past two years.

As a result of laboratory tests and field work, a new steel treatment of steel giving a greater tensile strength and a variety of wear resisting qualities to meet the needs of various tools used by the oil industry.

From this new steel the Oklahoma Iron Works has manufactured and is now marketing to the industry through the International Supply Company the ISCO Bit, with the guarantee of replacement of any pin that may break or "jam off" one of these bits.

The result of these laboratory and field tests has been the application of this special treatment to steels used by this company in the manufacture of ISCO Bits with guaranteed pins, jars, rope sockets, stem boxes and pins, drive clamp bolts, fish tail bits, M. & F. nipples and the new Faley patented drilling jars.

The Oklahoma Iron Works has also increased its forging lines to include all forged steel temper screws, gas packing clamps, companion flanges, casing shoes, drive heads, drive clamps, berry casing heads, Braden stuffing box casing heads, spider or casing ring, casing ring liners and casing ring wedges, all for high pressure and duty.

All of this new equipment is now carried by the International Supply Company at all their stores.

Larkin & Company Improve Sand Pump

The Larkin improved sand pump is said by the manufacturers, Larkin and Company, Butler, Pennsylvania, to be "Leader of the Larkin Line."

This pump is recommended for service under all conditions. Under normal conditions the pump operates with its regular bottom.

Where cavings have packed hard, the bit bottom is to be used.

On the regular bottom the legs are short, allowing the pump to rest as near the bottom of the hole as possible and still obtain the necessary suction to remove the geatest amount of sand and sediment quickly. The bottom is made of high grade steel. The clapper valve is provided with a specially cured leather which gives long service. Behind the latch is a strong, durable spring which is positive in operation and removes danger of losing the bottom in the hole.

The bit bottom is used for drilling and breaking the sand loose. The chisel-shaped design of the bit bottom prevents sticking and allows successful operation in tightly packed sands.

Additional information will be sent by the company, on request.

Larkin Sand Pump. At left is regular bottom. At right is Bit Bottom.

Now Being Manufactured Out of Cast Chrome Vanadium Heat Treated Steel

Can Now Be Had in Two Sizes— Five Foot or Six Foot Length Stroke

The Fetty Long Stroke Pumping Attachment, made from heat treated Chrome Vanadium Steel is the leading Long Stroke on the market today. Its construction gives power, long steady motion, and is easy to disconnect to pull rods or tubing. Used successfully by the leading oil companies in the Mid-Continent and Western fields, as well as in Foreign Countries.

What you need for large tubing or deep well pumping. Write for further information.

Address all communications to C. C. Fetty and Company, El-Dorado, Kansas. Phone L. D. 7.

Covered by United States and Foreign Patents

FETTY LONG STROKE

Say you saw it in The OIL WEEKLY

Oil Well Supply Company Develops New Items

In its efforts to keep pace with the constantly increasing demand for oil field equipment that will measure up to the heavy duty required of it, Oil Well Supply Company, 215 Water Street, Pittsburgh, Pennsylvania, has developed, tried out, and put on the market, a number of items during the past year. These are described below:

"Oilwell" Liner Barrel

Liner Barrel

The "Oilwell" liner barrel is recommended for floating sand.

This liner barrel is lowered on the rods inside the tubing and seats itself, either in a special coupling on the end of the tubing or in the top of a previously installed standard barrel.

It will work equally well with wire line or sucker rods, and works either on the beam or with a pumping jack.

Stationary and movable parts may be pulled to the surface as a unit, either for renewing the cups or any other parts which may need replacing, thereby dispensing entirely with pulling the tubing.

Seamless steel tubes of selected quality, chrome steel valve balls and seats, high grade brass parts, travelling valve with six Lubricups are all used as standard equipment in construction.

Made in three lengths of stroke—five feet three inches, three feet nine inches, and three feet three inches.

Tubing Spider and Hanger

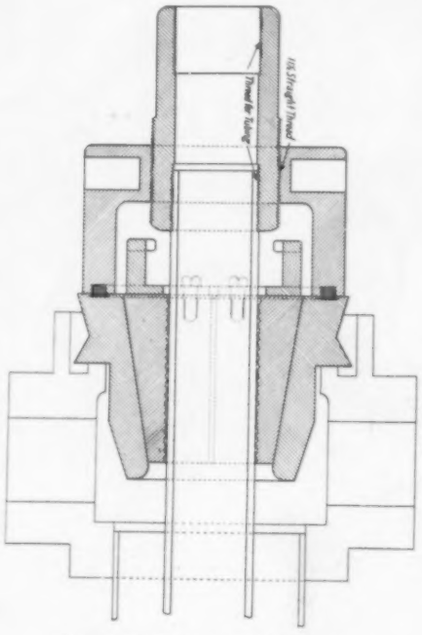
The "Oilwell" tubing spider and hanger is in reality a combination casing head top—tubing spider and slips and a tubing hanger or support.

It eliminates the possibility of the tubing dropping in case of fire or wind storm, and also avoids the dangers of hanging the tubing by the top coupling, as the tubing is supported both by the spider and slips and by a special heavy steel coupling.

It also eliminates the danger of field cut threads giving way from the constant vibration of the tubing at the coupling support and dropping the tubing.

The spider and slips are used when pulling or running in the tubing.

Slips are made in four sections, two of which are joined together to prevent passage through the spider, as well as



"Oilwell" Tubing Spider Hanger

to insure a perfect contact to the outside wall of the tubing and to make convenient handling for the operator.

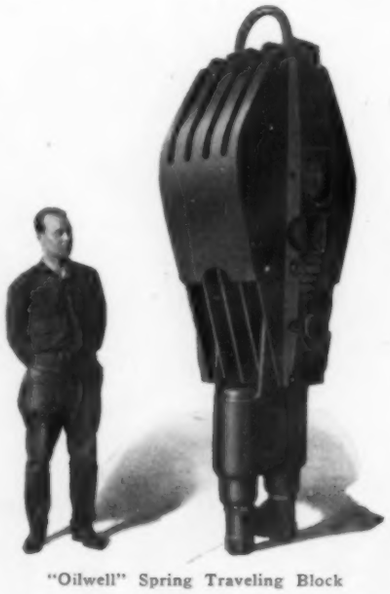
The "Oilwell" tubing spider and hanger will pack off successfully under pressure where gas or air are being used to flow a well.

It is recommended for use on all wells 2500 feet in depth or deeper, and is made for use with two-inch and two and one-half-inch regular or upset tubing.

Spring Traveling Block

The "Oilwell' spring traveling block combines a traveling block and spring hook, as there is a spring attachment in the lower clevis.

They have two springs which give better spring action. Though large in size and extremely powerful, they are shorter overall when equipped with any common casing hook than a regular traveling block with a spring casing hook.



"Oilwell" Spring Traveling Block

The large center pin is drilled so that each sheave is lubricated independently. Lubrication is by means of the Alemite system and connections are so located that they are not liable to damage.

The side plates carry heavy steel side bars which not only strengthen the blocks but also prevent them from getting caught in the derrick.

These blocks are made in two sizes—54-inch and 66-inch and can be furnished either bronze bushed or with roller bearings. They are made with either triple, quadruple or quintuple sheaves, and either with or without guards.

Slip Ring Casing Elevator

The Butler slip ring casing elevator, manufactured by the Oil Well Supply Company, differs from the usual elevator in that it does not lift the casing by the top coupling but instead has movable slips which work within a heavy steel bowl, engaging the casing and carrying all of the load.

The slips are extra long, of correct taper, interlocking and self-aligning. They will engage the outside wall of any make casing and they release easily.

On account of the long links with which the elevator is equipped, it is possible to attach to the casing, when cementing, the necessary connections for such work, while the elevator and slips hold the casing in position in the well.

"Oilwell" Improved Ball Bearing Swab

The illustrations show the different operative positions. Fig. 1 shows the complete elevator with slip hook engaged and with slips raised ready to be placed over or to be taken off the casing. Fig. 2 shows the method of attaching the elevator to the casing—lower it over top of casing until bracket rests on casing coupling. Lowering a little further will automatically disengage the weighted slip hook. Then raise elevator until bowl comes up over slips as shown in Fig. 3. To detach elevator from casing, lower it and place weighted slip hook in ring on top of bracket, then lift off over top of casing.

Ball Bearing Swab

The "Oilwell" improved ball bearing swab has been perfected and thorough-

Welcome to the home of SKELLY!

SKELLY BUILDING, TULSA

TO THE MEMBERS OF THE AMERICAN PETROLEUM INSTITUTE:

A cordial invitation is extended to you to visit our offices while in Tulsa. You will find the officers of the company and the heads of all departments keenly alive to the problems of the petroleum industry and thoroughly in sympathy with the past accomplishments and future program of the A. P. I.

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FIG. 1 FIG. 2 FIG. 3

Butler Slip Ring Casing Eelevator

ly tested under severe field conditions.

It is ball bearing which takes care of the twist in the wire line and reduces the wear on both the swab and wire line.

The length over all is reduced to a minimum so as to permit the swab to pass freely through the casing without binding or wearing.

It is designed with a large opening through the center and at the top so as to expedite running into the well and the free passage of gas and fluid through the swab. This also reduces the danger of kinking the wire line.

Two special constructed rubbers insure long life and low operating expense. The rubbers are expanded with the inside fluid pressure when coming out of the well with a load, thus giving two distinct contacts with the inside wall of the casing and assuring increased production by lifting more fluid. The rubbers are adjusted by and supported with steel flanges on the body of the swab.

Steam Derrick Hammer

The Berquist steam derrick hammer is said by the company to eliminate all the hard physical exertion of the driller and tool dresser in dressing bits and tools. The hammer will perform efficiently in a standard cable tool derrick or in an outside forge house.

It will dress bits under 18 inches in one heat. On 18 to 24-inch bits the time required is less than one-half that required for the ram method. In the first heat the bit can be spread and shaped properly; in the second heat, dress out to gauge, hammer down wearing surface and trim out water courses.

The hammer will strike over 300 blows per minute. A special constructed anvil is also furnished.

Further information with literature on all these products may be had by writing The Oilwell Supply Company, 215 Water Street, Pittsburgh, Pennsylvania.

Bergquist Steam Derrick

Shaffer Stationary Boiler Type Gauge Cock

The new improved Shaffer Stationary Boiler Type Gauge Cock can be operated from the floor regardless of how high it is located.

Due to the special design of the stob which is equipped with a length of chain to which is attached an S link a light wire or cord can be attached to the S link and adjusted to any distance desired.

Two kinds of wheels are made to meet all conditions, combination metal and fibre and a special all metal wheel. Fibre cushion wheels (made with a babbitt core and a fibre ring) are preferred under fairly good water conditions, as the steam softens the fibre making an easy shut-off. Special metal wheels are more durable where strong alkali or salt water are encountered — this wheel has been especially designed to meet this condition.

Further information, prices and etc. of the Shaffer Improved Stationary Boiler Type Gauge Cock or Standard Boiler Gauge Cock can be obtained by writing the manufacturers, the J. E. Schaffer Company, 316 Mid-Continent Building, Tulsa, Oklahoma.

Save it. This issue should not be laid aside after one reading. It will be handy all next year when you need some equipment for that particular job that is always coming up.

Howell "3-in-1" Valve and Thief Hatch

Valve and Thief Hatch on Maloney Bolted Tanks

The Howell "3-IN-1" Combination Vacuum-Pressure Valve and Thief Hatch is now standard equipment on Maloney Bolted Steel Tanks. This hatch is a recent development said to add to the efficiency of Maloney tanks.

The lid itself acts as the pressure valve. A ring of special oil proof rubber in the lid seats against aluminum, rendering the valve air-tight when closed. Small internal pressures will slightly lift the lid, while sudden heavy pressures will throw it wide open.

The vacuum valve is shown in the illustration in open position. This valve is held closed by a spring, the seat in this case also being aluminum against rubber.

A valuable feature of the valve is a foot-button on top, pressure on which forces the vacuum valve open. A person about to lift the lid, can first release all gas pressure in the tank and avoid having gas puffed in his face, by pressing the foot-button with his foot.

The Maloney Tank Manufacturing Company is placing this improved type of valve on Maloney Bolted Steel Tanks, and is also acting as distributor of these valves for the oil industry.

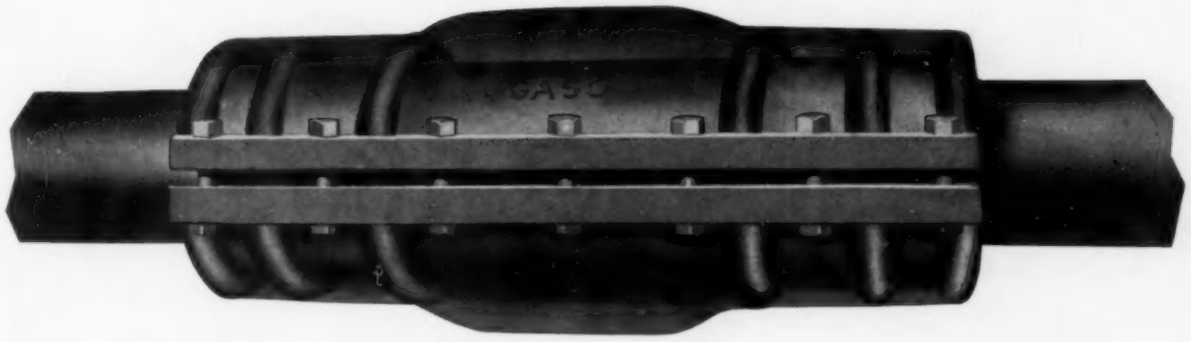
This valve is made in both standard gas tight design, as illustrated, and in special flow tank design.

The Maloney Tank Company, Tulsa, will provide further information.

Master Pump Jack Handles Deep Well Efficiently

The Master Pump Jack recently invented by the Oilwell Accessories Corporation was the subject of much experimenting and actual work in the field before it was offered to the industry.

According to its manufacturers, the jack has been designed to handle the deeper wells from a central power. Being light in weight, but strong in



GASO RIVER CLAMPS

Built Extra Heavy in Any Style

GASO River Clamps, manufactured by the Tulsa Iron Works Company, Foundry Division of the Gaso Pump & Burner Mfg. Co.,—are made of the same extra quality of castings that are used in making the famous Gaso Oil Industry Pumps.

These clamps are built extra heavy, having six extra ribs extending around the entire clamp and an extra rib running the entire length of the clamp. They are tested on the size pipe for which intended.

GASO River Clamps have been used in the construction of many of the country's largest pipe lines. Orders will receive prompt attention.

The Tulsa Iron Works Company maintains a fully equipped pattern shop, and handles a limited amount of jobbing work, such as piston heads, cylinders, and liners, for operating companies in its territory. Highest grade work is guaranteed. Your inquiry is invited.

TULSA IRON WORKS COMPANY

TULSA, OKLA.

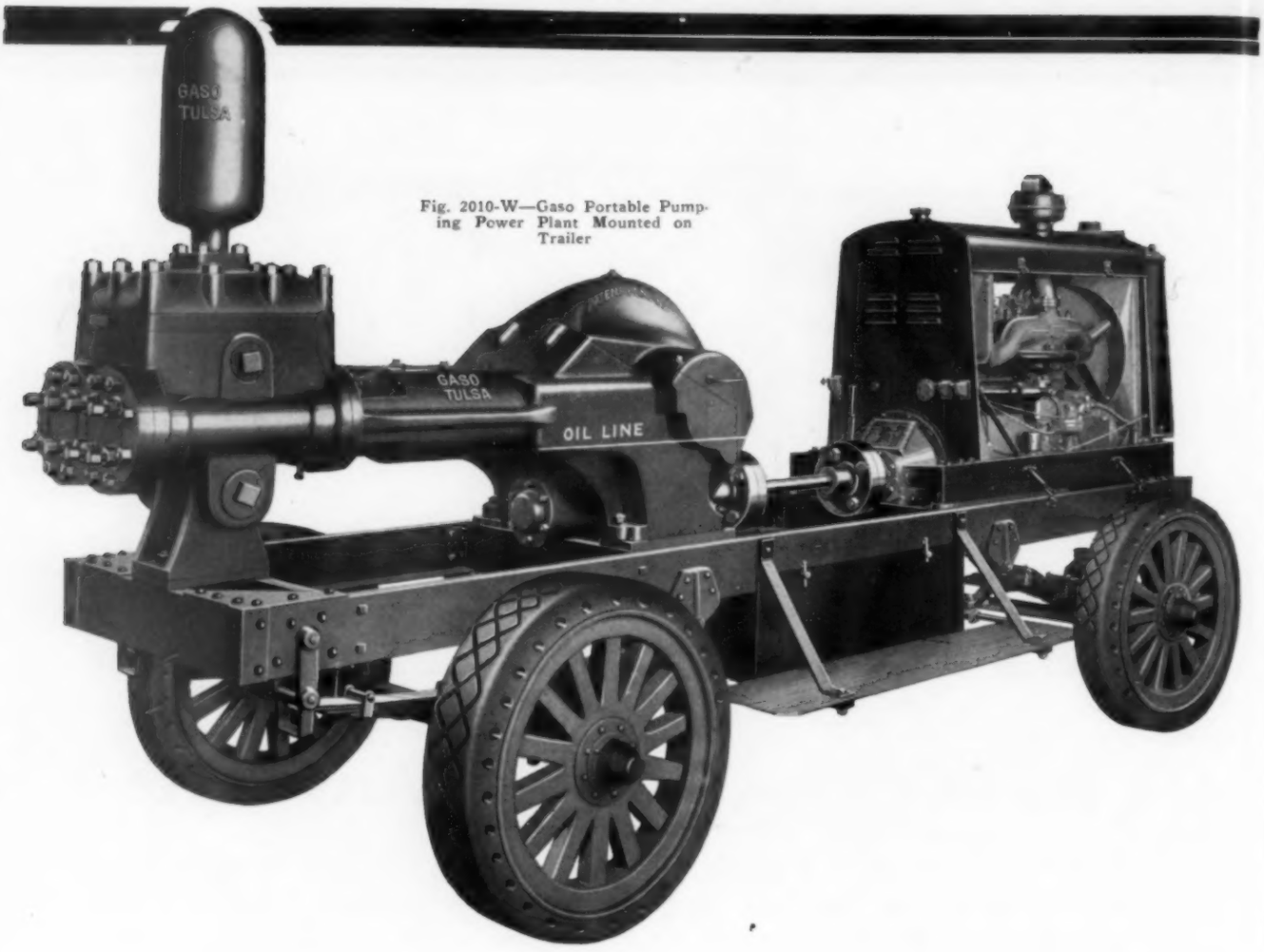


Fig. 2010-W—Gaso Portable Pumping Power Plant Mounted on Trailer

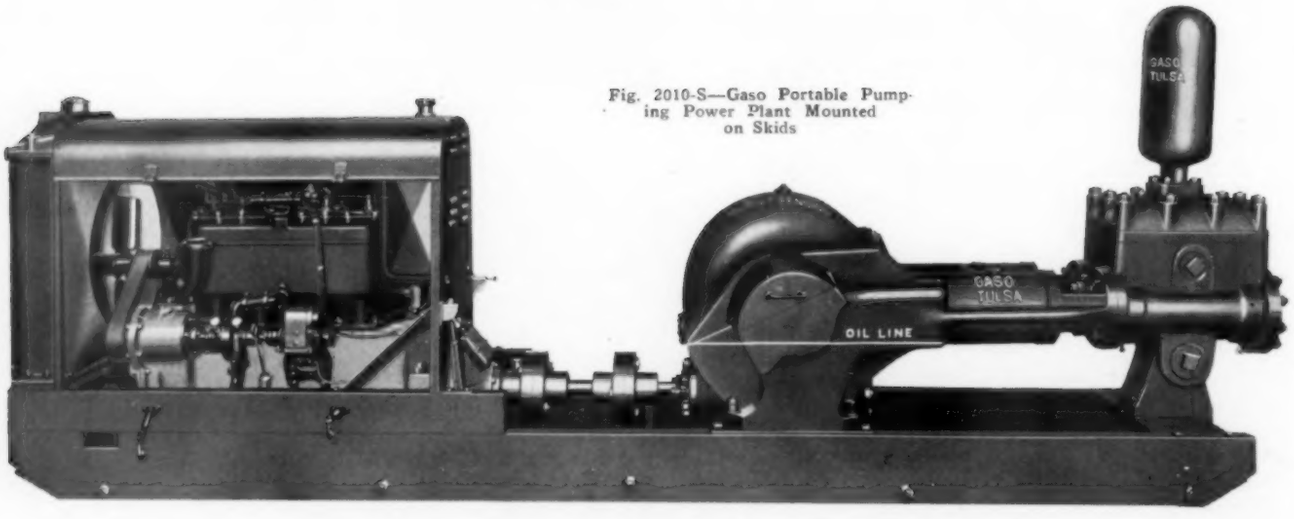


Fig. 2010-S—Gaso Portable Pumping Power Plant Mounted on Skids

GASO OIL ENGI

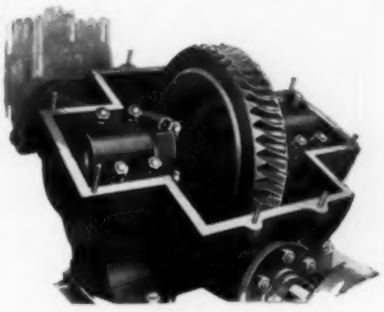
DEMAND FOR OUR GASO PORTABLE PUMPING PLANT

has more than DOUBLED expectations

That our Portable Pumping Plant supplied a real need of Oil Industry has been proved by its sales record of the past year. The demand for this plant has more than doubled our best expectations.

Leading pipe line and producing companies are using this plant as a temporary pipe line pumping station, for water supply in drilling operations, and for all temporary and semi-permanent pump station and booster service.

The self-lubricating worm drive pump has proved both a highly efficient pumping unit and time, labor and money saver due to its perfect automatic lubrication. This pump measures up to Gaso standards in every particular, possessing few large parts, constructed of highest grade materials, insuring great strength and exceptional durability. The Buda power unit has proved, in service, ideally suited to this work.



Power end of pump, with cover removed, showing bronze worm gear running in oil bath

SPECIFICATIONS

PUMP—Heavily constructed duplex double acting power pump with interchangeable cylinder liners from 2½" to 5", with 10" stroke. Capacities ranging from 45 bbls. per hour at 800 lbs. pressure per square inch, to 250 bbls. per hour at 275 lbs. pressure per square inch. Has bronze ring gear and steel worm, with double-thrust ball bearings, all enclosed in housing and running in oil.

Pump is direct connected to the power unit through two flexible couplings, to compensate for any distortion when conveying over rough roads and to maintain perfect alignment.

POWER UNIT—40 or 50 H. P. Buda four-cylinder motors equipped with combination gasoline and natural gas carburetor. Pierce Governor.

TRAILER—Standard tread, four wooden wheels, equipped with 36x5 Cushion Tires. Special extra large axles with Timken Roller Bearings. Front axle has regular automobile knuckle joint steering arrangement. Frame is constructed of heavy channels and has steel tool box mounted under frame, all resting on four 48-inch, 12-leaf Vanadium Steel Springs. Designed to be transported at regular truck speed.

Also furnished mounted on skids. Ask for full details.

Gaso Pump & Burner Mfg. Company

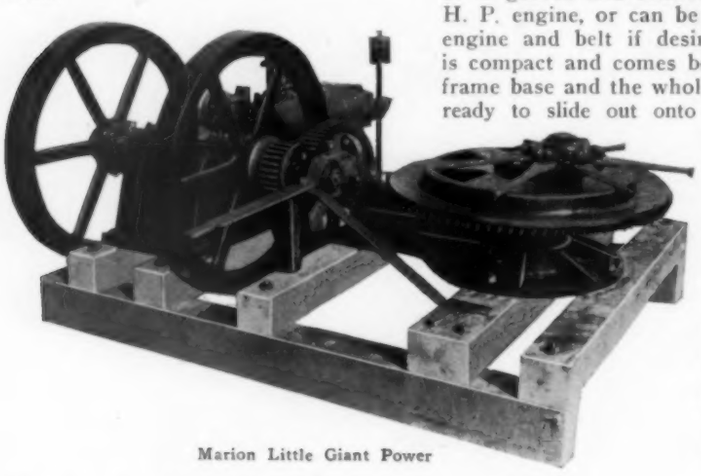
Tulsa, Oklahoma

STRY PUMPS

construction, it gives a straight stroke up to 36 inches with an easy lift and a positive stop.

Features of the jack are its all steel construction, reduction of friction and shocks, long stroke with easy adjustment, large oil reservoirs and removable bearings. The jack can be used with or without counterbalance as conditions permit.

Complete information on the jack can be obtained by writing the Oilwell Accessories Corporation, Tulsa, Oklahoma.



Marion Little Giant Power

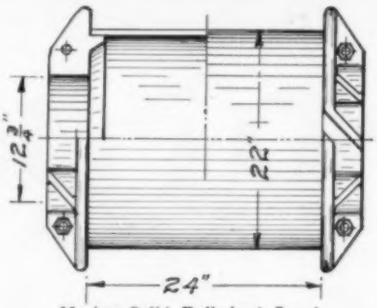
Marion Machine Develops Several New Items

In addition to its Little Giant Power No. 80 which has been favorably received in the oil country, Marion Machine Foundry and Supply Company, Marion, Indiana, have developed several other items during the year. Short descriptions of these are given below:

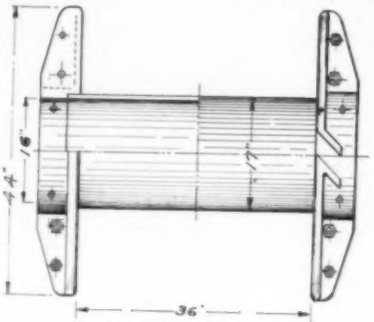
Little Giant Power

The Marion No. 80 Little Giant Power is geared and connected with a 10 H. P. engine, or can be operated with engine and belt if desired. The unit is compact and comes bolted to heavy frame base and the whole equipment is ready to slide out onto foundation or it can be easily trucked from one lease to another as occasion demands. The Power will pump from one to six wells and is low in cost.

The base and shaft are one solid casting. The master gear is babbitted to fit the shaft. The thrust bearing plate is made of phosphor bronze, and runs in a bath of oil. The drive shaft bearings are chain oiling.



Marion Solid Bullwheel Spool



Marion Speed Spool

Marion Split Steel Tug Rim

Steel Bull Wheel

The Marion Heavy Swabbing Steel Bull Wheel, according to its manufacturers, is built to handle the most severe swabbing. The gusset plates are large and have many rivets, making a strong connection between the arms and the rim.

The arms are connected with a diagonal brace made of heavy T-iron to give additional strength to the tug wheel. The shaft is 16 inches x 6 inches and in addition the shafts have cast iron inner liners one inch thick which are pressed into the shaft to prevent crushing under extreme loads.

Split Steel Tug Rim

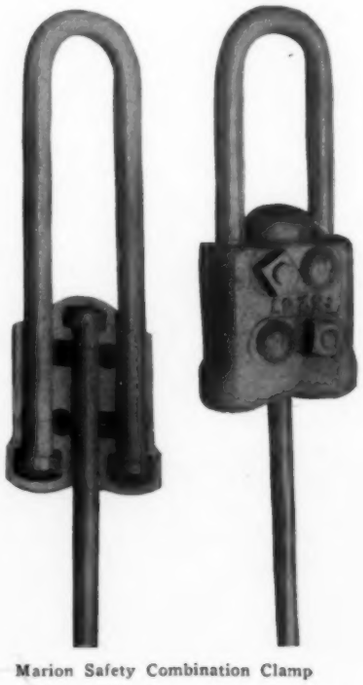
The Marion Split Steel Tug Rim is rolled in one piece and cut in halves with bolted connections. This allows the rim to be put on the wood handwheels without taking the shaft out of the boxes. The Marion split steel tug rim is made in the following diameters; six feet, six feet six inches, seven feet, seven feet six inches and eight feet.

Marion Key Puller

The Marion Solid Bullwheel Spool clamps on the bull wheel shaft and is prevented from turning by set screws. Its weight is about 1350 pounds.

The Marion Speed Spool clamps on the shaft and is used to increase the speed when pulling rods. It is said that this spool increases the speed 70 per cent.

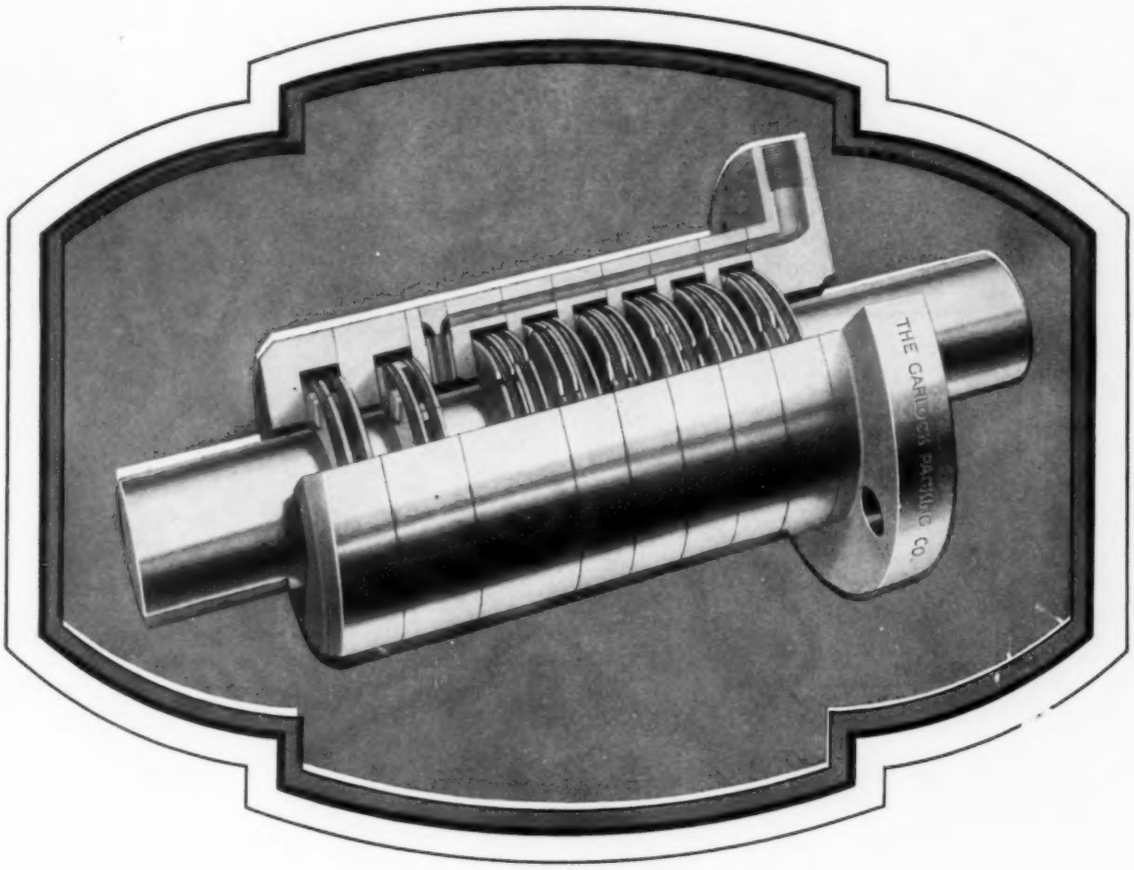
The Marion Key Puller is recommended for pulling keys, and is said to



Marion Safety Combination Clamp

GARLOCK

GARLOCK GAS COMPRESSOR METAL PACKING THAT DOES NOT LEAK



GARLOCK - 875

For Piston Rods in Good Condition

High Pressure Service

Garlock-875 is an improved design Gas Compressor Metal Packing which, after severe service tests, has established itself as the ultimate packing for this purpose.

It reduces operating cost as it will not score or wear the rod out of round. The combination breaker-scraper rings remove the sand and grit, an abrasive element, from the piston rod and the method of lubricating allows the rod and rings to work in an oil bath.

The High Pressure Packing is an assembly of eight sections of rings, two pressure-scraper rings and six double-packing rings, enclosed in a sectional cup case as illustrated, or a split case if required. All parts of the packing are accurately machined and ground. The rings are manufactured from high carbon content interstitial cast iron and so designed that incorrect application is impossible.

The High Pressure Packing is recommended for Gas Compressor Service handling all medium and high pressures.

Low Pressure Service

Garlock-875 is also supplied to work against low pressures. It is made of the same material as the High Pressure Packing with a slight change in design. Five sections of double packing rings are enclosed in a sectional cup case, or a split case as may be specified. Where gas containing grit is encountered one of the double packing rings is eliminated and one or two breaker-scraper rings substituted.

Blue Prints and Specifications

Complete specifications and blue prints will be supplied upon application. We suggest that you write our nearest Oil Field Sales Office.

The Garlock Packing Company
Palmyra, New York

Oil Field Warehouses and Sales Offices

Houston, Texas Tulsa, Okla. Los Angeles, Calif.
Pittsburgh, Penna. Cleveland, Ohio

The Standard Packing of the World

Marion Metal Engine House

have a powerful grip. It weighs 52 pounds.

The Marion Safety Combination Clamp covers the heads of both the rod and the U-bolt, so that it is impossible to injure the hands when hooking up.

Metal Engine House

The Marion metal engine house is made of galvanized steel with patented inter-locking base, which makes these houses rigid and weather tight. They are simple in construction and can easily be erected in a day by a man and helper, with no other tools than pliers, screw driver and hammer.

The regular Marion engine house that is used most in the oil field is furnished with one double door, one single door and two 18-inch x 28-inch windows and one belt slot panel. They are made in three sizes: 15 feet wide by 15 feet 10½ inches long, seven feet ten inches high to the eaves; another size is 17 feet nine inches long, 17 feet 10 inches high. The third size—16 feet 10½ inches wide by 17 feet nine inches long, 7 feet 10 inches high to eaves.

Marion Machine Foundry and Supply Company will furnish further details on each of these items, by request.

Wire Line Drilling Clamp Has Maximum Gripping Power

A wire line drilling clamp which the manufacturer characterizes as "having the greatest simplicity in construction, with a maximum gripping power," has recently been placed on the market by Acme Fishing Tool Company, Parkersburg, West Virginia.

The clamp has few parts and is noted for its ruggedness and strength. It is light enough to use on drilling machines, yet adequately strong to drill 6000 feet. It is said that the gripping power is ten times the pressure exerted by the adjusting screw.

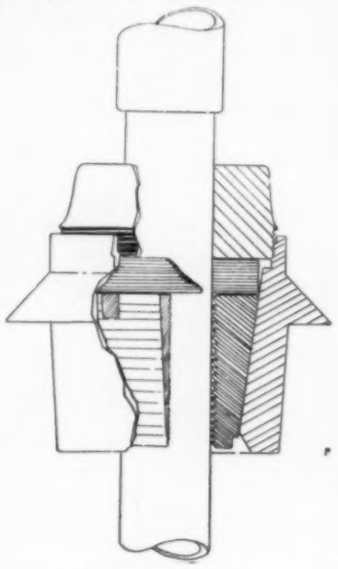
Additional details will be furnished by the company on request.

Acme Wire Line Clamp

Tubing Hanger May Be Used in Any Size Casing

The Hercules tubing hanger, manufactured and sold by the Hercules Tool Company, Tulsa, can be used on flowing or pumping wells, in any size or make of casing head.

This hanger is made of steel forging and weighs about 48 pounds. The bowl



is flanged to fit in the top of the casing head, thus carrying the tubing weight at the casing head on the slips.

The three slips fit the circumference of the tubing, gripping it and holding it securely.

The rubber packing ring forced down tightly on the slips by the packing nut, acts as a packing to pack off around the tubing under any pressure.

Tubing Anchor

The Hercules Tubing Anchor being manufactured and sold by the Hercules Tool Company, of Tulsa, is a device that is primarily a support designed to engage with the casing at any selected point along its length, and eliminate the stripping of threads and parting at the coupling.

The operation of the Hercules Tubing Anchor is on simple principles. It is attached to the tubing at any point, preferably near the bottom of the casing. The anchor is set by turning the tubing one-third turn to the left, thereby placing the slot pin over the vertical slot in the cage, and allows the body of the anchor to slide down into slips. The jaws are expanded until they engage with the walls of the casing.

The Hercules Tubing Anchor also acts as a safety device as a means of preventing any accident that might occur while tubing is being removed from the well.

Each anchor is equipped with a combination thread, that is, a six and five-eighths inch by two-inch anchor, both upset and regular, the first thread being for upset end tubing, and the regular thread just under this. This is an important improvement due to the fact that the anchor can be used on either regular or upset tubing and does not require two different anchors.

The cage is made of malleable casting.

The body is short, making the tool very compact. The hole for the slot pin does not extend clear through the body. The slot pin is locked into the casting by means of a cotter key.

Additional information can be had by addressing the company.

Walter O'Bannon Company Sucker Rod Hook

A new safety sucker rod hook is offered to the trade by Walter O'Bannon Company of Tulsa.

In the design of this hook four very important requirements have been met. An ample alloy steel ball bearing assures that the hook will swivel under full load. A latch mechanism, "as easy to open and close as your hand," insures the hook's approval by the man who uses it. A guard, which rigidly wards off beam or girts, yet responds instantly to the will of operator when he is ready to hook on or off, insures safety for men and equipment. Reserve strength without excess weight is secured by the use of alloy steel, carefully heat treated to develop high resistance to strain and wear.

This rod hook is distributed through the various oil field supply stores.

Save it. This issue should not be laid aside after one reading. It will be handy all next year when you need some equipment for that particular job that is always coming up.

Smith's
Oil Field Specialties
—are designed to lessen the burdens and increase the efficiency of petroleum production. Their accomplishments in every field are a matter of record of which we are justly proud, and merit your sincere consideration when equipping your wells.
1 The Phipps Core Bit.
2 Foster & Smith Wire Line Control.
3 The Smith Rotary Underreamer.
4 Smith Eccentric Hub.
5 The Nemec All-Steel Eccentric Strap.
6 Smith 2" Kiln Burner.
7 Smith No. 3 Hot Blast Gas Burner.
8 Smith No. 1 Hot Blast Gas Burner.
9 Nemec - Smith Liner Puller.
10 Nemec Valve Seat Puller.
11 The Nemec Oil Burner.
12 Smith High Pressure Stuffing Box.
13 Smith Tubing Bleeder —Patented.
14 Smith Hot Blast Kiln Oil Burner.
15 Smith Tubing Head.
16 Smith "3 Way" Disc Bit.
17 The Phipps Core Barrel.
Catalog of all Smith Specialties will be mailed to you on request
H. C. SMITH MANUFACTURING COMPANY
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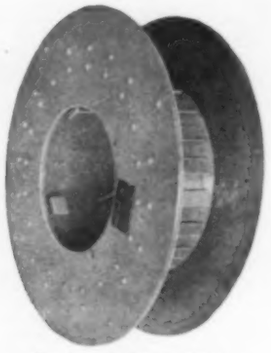
Harry B. Shine, Sales Agent, 2408 McKinney Ave., Houston, Texas
R. D. Mumford, Factory Representative, Amarillo, Texas



Braden Take-up Reel

Braden Take-Up Reel Is Economy Device

A new Take-up Reel, manufactured by the Braden Company, Tulsa, is meeting with a favorable demand.

This reel is constructed in two parts, all-steel material, welded and riveted. It is designed to be used exclusively with the R-B winch, utilizing the power transmitted through the winch. The reel is quickly attached and removed from the winch drum by means of four screw bolts.

When the wire is reeled in, the reel is removed from the winch drum and taken apart, leaving the wire coiled loosely on the base of the reel. Wrap wires can be applied to keep wire from uncoiling.

Dismantling tests made with the reel have shown a substantial saving in dismantling costs, referring to reeling wire only. The coil produced by the reel is without kinks, is compact, and can be easily handled when used again.

The Braden Company is well known in the oil fields because of the popular R-B winch, a Braden product.

New Type Steel Building

The Braden Steel & Winch Company has just introduced a new type of steel building, the sheets of which are two feet wide, and flat, with a new patented lock-joint along their edges. The lock-joint fastens the sheets securely together, and is formed so as to serve as a powerful reinforcement for the walls. So strong are the ridges made by the joints that meter houses and other small buildings are constructed without any uprights in the frames, the walls and corners being sufficiently strong without them.

Lack of corrugations in the sheets renders the inside walls of the new buildings flat and smooth, the ridge made by the joints being entirely on the outside.

Portability is further enhanced by the design of the corner joints. This is such that the four walls of a building may be separated by merely slipping the corner joints upward and off. Walls can thus be left intact for moving short distances, and can then be again assembled by slipping the corner joints back into position.

The lock-joints are wind and rain-proof, and the flat wall enables the roof to fit so that the eaves are also weather-proof. Roof is constructed of the same type of sheets as are the walls, and is non-leakable. Windows are Fenestra steel sash, carefully fitted. Doors are also of steel, carefully fitted to make, when closed, a weather-proof joint.

Material used for the sheets is heavy steel, copper alloy treated and galvanized to insure long wear and resistance to rust.

More information may be had from the Braden Steel and Winch Company, Tulsa.

Braden Derrick

The Braden Steel & Winch Company are entering the field of dermanufacture with the Braden Patent Clamp Joint Steel Derrick. This new angle iron derrick is unique in that it has practically eliminated the use of bolts for fastening the parts together, thus saving erection time and increasing safety.

The patented clamp joint, which is the primary feature of the new derrick, is composed of an outer and inner plate fastened together by means of a wedge-shaped pin. It is so constructed as to allow the upper and lower legs and the horizontal angle girts to enter the clamp; and when the pin is driven in place, they are gripped securely in such a manner that they cannot be withdrawn. Slots are provided in the joint in which to hook the turnbuckle rods which are used as diagonal bracing, and when these are drawn up tight the derrick is made extremely rigid.

Braden Patent Clamp Joint Steel Derrick

The great advantage of this patented joint lies in the ease with which the derrick can be erected and dismantled.

Another distinctive feature is the method of fastening in place the relegs or reinforcing angles used during drilling operations. As there are no bolt ends projecting on the outside of the derrick legs, the releg fits down tight over the outside of the derrick joint and is fastened in place by means of two hook bolts which run through a steel casting at right angles and are drawn up by means of nuts. At the bottom of the releg there is provided a jack which can be raised or lowered to procure even distribution of the weight between the leg and the releg.

The Braden Steel & Winch Company now manufactures a complete drilling or pumping unit composed of the new derrick, a portable steel house and portable steel engine house, all of which are being manufactured at their Tulsa plant. The company has recently added to its line a new type of light sheet metal building having a patented joint. The new joint permits the use of flat copper-alloy treated galvanized sheets, and renders erection exceptionally easy and construction unusually tight.

More data can be obtained from the company, upon request.

Lead Wool Packer Overcomes Bad Chemical Conditions

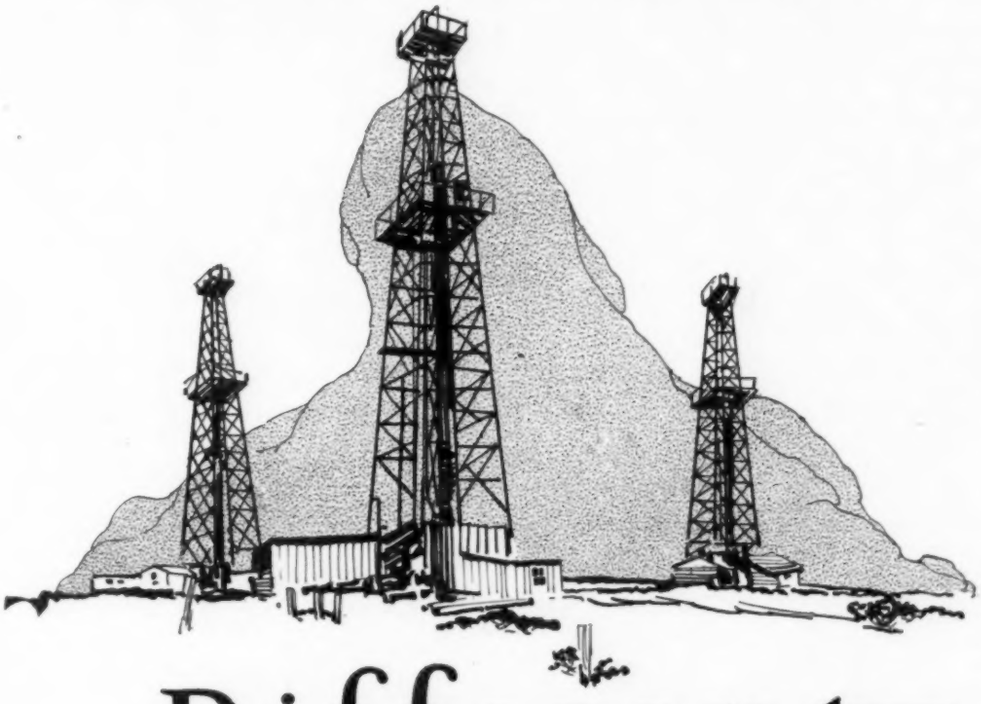
Layne and Bowler Company, Houston, Texas, manufacturers of oil field supplies, announces an improvement in their Layne Ratchet Packer. For a number of years all-canvas lead cones and canvas have been used as the packing material of this packer. Recently another type has been perfected, which uses lead wool for the packing medium.

This gives the new packer advantages over the old one especially where chemical conditions in the well would cause the canvas to deteriorate.

The Lead Wool Packer is constructed and set in the same manner as the All Canvas Ratchet Packer. The pressure of setting compresses the lead wool almost as solid as though molten lead were poured into the packing space. This makes a joint not likely to be affected by bad well conditions.

Further information will be supplied by the company upon application.

TRINITY
OIL WELL CEMENT



Different

NOW . . . ready for immediate shipment . . . Trinity's **new** OIL WELL CEMENT. Exhaustive laboratory tests have proven the superior advantages possessed by this new product. Behind it is the vast manufacturing resources of the Trinity Portland Cement organization and a reputation for sterling quality . . . **always.** Here is an OIL WELL CEMENT that will prove a revelation to the oil fraternity. It is dependable. It is DIFFERENT. Information will be gladly supplied those interested.

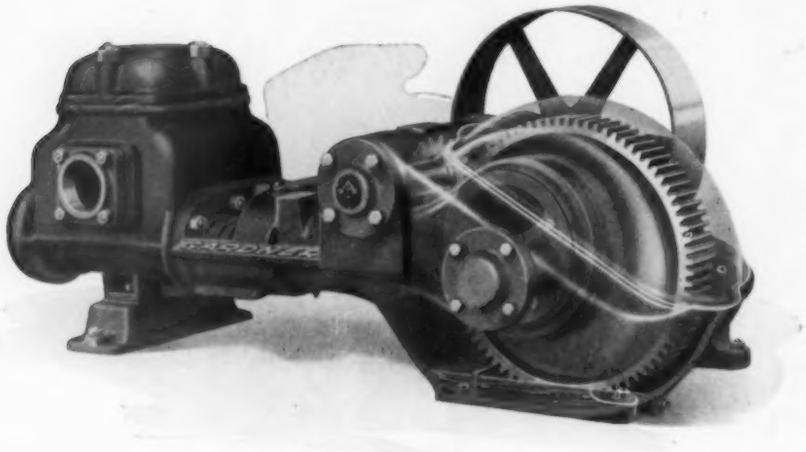
Investigate

Trinity's Oil Well Cement is packed in water proof, extra heavy, green bags. Trinity brand is the mark of Quality Cement.

TRINITY PORTLAND CEMENT CO.

DALLAS FORT WORTH

Say you saw it in The OIL WEEKLY



Gardner Enclosed Pump

Gardner Improves Pumps And Compressors

In the new Gardner enclosed type power pumps, the vertical power-driven compressors, and the super-booster mud pump, various mechanical refinements are incorporated.

All running parts of the power pumps are totally enclosed in the crank case which acts as an oil reservoir for the flood lubricating system. The lubricating system is automatic. The main driving gear partially submerged in oil delivers the oil through channels to the main pinion shaft bearings, crank and cross head pin bearings and cross head guides. All working parts are literally flooded with oil.

The total enclosure, automatic lubrication and operation features make this pump desirable for isolated locations.

This type pump may be belt driven from any source of power available. The pumps are designed for overhead motor mounting and can be operated direct connected by suitable means to steam, oil, or gas engines. They are also adaptable for use as a portable pumping outfit driven by gasoline motor through a clutch and gearing.

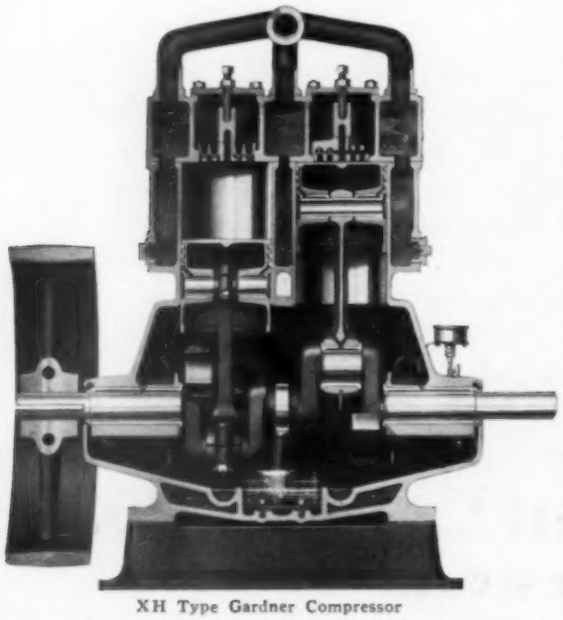
The XH Type Gardner compressors are built to meet the demand for a compressor to be operated by direct connection to commercial gasoline engines and electric motors.

Their compact, rigid construction makes them ideal for both portable and stationary use.

This compressor is the latest development in compressor construction. Many new features are incorporated in its design, and is built in a number of practical sizes ranging in capacity up to 265 cubic feet, they are adaptable for a wide variety of uses.

The compressor is entirely enclosed, the oil system is automatic and positive. A plunger type oil pump circulates an abundant supply of oil to each bearing on the compressor.

All parts that require adjustments are easily accessible. Valves can be reached by simply removing the bolted caps. Large handhole plates on both sides of the crankcase make it possible to inspect all working parts and make any necessary adjustments.



XH Type Gardner Compressor

In general this design incorporates many outstanding features such as light automobile type pistons. Connecting rods are drop forgings heat treated. Main and crank pin bearings are removable die castings. Crank shaft is a drop forging of unusually large size, accurately finished and counter balanced.

An interesting feature of the design of the new pump is its divided fluid end. Each fluid cylinder is a separate casting. This construction is said to add great strength to the pump, eliminate breakage of fluid cylinders and renders replacements more economical.

An important advantage of this pump lies in its provision for direct flow of liquid through the cylinders, which largely eliminates trouble due to improper filling.

Another outstanding feature of the pump is the Gardner 45 degree beveled valve guided top and bottom outside of the seat. This construction insures a free and unrestricted flow of fluid. Either rubber or balata inserts may be used, as formations warrant. Upper and lower stems are of special hardened steel guided in hardened steel removable bushings.

This pump is also offered in enclosed, self-lubricating, power-driven style. Its addition to the roster of Gardner Mud Pumps renders the line exceptionally comprehensive, all sizes now being offered in both steam and power-driven styles, down to the small "Baby Booster" for portable rigs.

This pump is offered in 14x7¼x14 size and is built for normal working pressure of 1500 pounds, and for steam pressure of 225 pounds.

For full particulars address The Gardner Governor Company, Quincy, Illinois or 611 Second National Bank Bldg., Houston, Texas.

Showing beveled 45 degrees valve, a feature of the Gardner Pump

Special Wire Fence for Oil Company Service

Wire fences, especially designed for oil company uses is being manufactured and sold by the Hudson Wire and Iron Company of Tulsa. This company has equipped a modern manufacturing plant for their products and their organization embraces a complete fencing service, including the planning, designing and erecting of any kind of fences.

The Hudson standard protection fence is made 72 inches high with two-inch mesh and No. 9 galvannealed copper-bearing wire. With three strands of barbed wire on top, it measures seven feet over all—a non-climable barrier of protection.

This fence is furnished in heights of from two to 12 feet in 1½ to 2½-inch mesh and of No. 5 to No. 12 wire—heavily galvannealed. It is made with either a top rail, as illustrated, or with a heavy latteral top wire. Arms are supplied for carrying three, five or six strands of barbed wire. The line posts are made of heavy line pipe 2½ inches

In keeping with the Spirit of
The AMERICAN PETROLEUM INSTITUTE
we have Standardized
Accuracy

METERS

Say you saw it in The OIL WEEKLY

outside diameter, and are set in concrete and spaced 10 feet from center to center.

The end, corner and gate posts are 3½ inches outside diameter and are made to set 3½ inches below the grading line. All gates are fitted with locking devices.

Further information and a complete catalogue may be obtained by communicating with the company direct.

Balanced Pumping Jack Lightning Oil Well Pumping Power

Believing that a medium sized pumping outfit specially designed for the shallow fields and for opening up new fields, should be built the Kansas City Hay Press and Tractor Company has designed what it terms the No. 1 Lightning Oil Well Pumping Power

It supplies direct connected power equipped with a 6 to 12 h. p. Stover Engine. The outfit comes equipped with connections for six wells, is back-geared 29 to 1 and has an 18-inch stroke aimed to operate at 13 strokes per minute. The base casting is made in one piece from a high grade mixture or semi-steel and carries all the gearing so that there can be no misalignment of any of the working parts. The complete outfit occupies but a small space and can be readily transported, being ready to instantly operate with no foundation to build and no engine to line up.

Much thought has also been given to the convenience of the operator. In throwing on or off a well no other anchorage is required other than that supplied by the machine itself. The anchorage is incorporated in the base casting and can be shifted to any point of the compass, affording a simple and exceedingly handy way to throw off or on a well while the machine is running. The Stover Engine, a product of the Stover Manufacturing & Engine Company, of Freeport, Illinois, is direct connected and being provided with a powerful friction clutch can be started and stopped at will without stopping the engine. This feature also makes starting of the engine a much easier task.

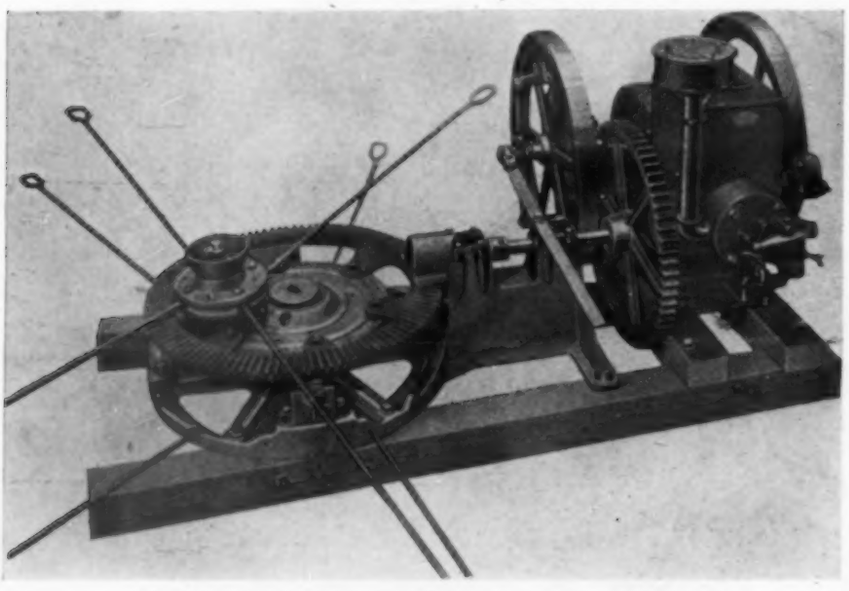
Balanced Pumping Jack

The new Lightning No. 4 balanced pumping jack has been developed by

the Kansas City Hay Press & Tractor Company for use on both deep and shallow wells. The heavy pattern for wells over 2500 feet in depth weighs 1500 pounds and for wells up to that depth the weight of the jack is 1200 pounds.

The new jack is designed to afford long life and has a fewer bearings. The polish rod has a perfectly straight movement up and down and the counter weights are so arranged that they may be moved to and from the fulcrum point, thus changing the resultant lift. These jacks so lighten the load placed on the pull rods that it is entirely practical to handle deep production from the power.

The fulcrum point is low to the ground and only a small foundation is required for installing this type of jack. Further information may be obtained by communicating with the Kansas City Hay Press & Manufacturing Company, Kansas City, Missouri.



Lightning Oil Well Pump—Kansas City Hay Press Company

Combined Nipple and Spider Saves One Elevator

The sucker rod spider and bell nipple combined, now being marketed by the Oil Field Supply Department of the Kansas City Hay Press Company, Kansas City, Missouri, is recommended in pulling rods as it saves the use of one elevator.

It is said to be automatic in action and sure. More information will be furnished by the company.

Eotvos Torsion Balance Made in Small Model

The ever increasing use and widening of the territory suitable for torsion balance work has demanded a more portable instrument than that used heretofore.

The makers of the original Eotvos torsion balance in Budapest, Hungary, have succeeded in developing a small instrument having the same sensitiveness as the large type instrument. While the large instrument needed specially outfitted trucks for transportation, the new instrument can be transported in any touring car. The weight being only 70 pounds, it can be carried easily by two men into swamps or where cars could not go.

The new instrument needs only two men to operate, which makes it extremely economical. This puts the advantages of the gravity survey with the torsion balance in the hands of smaller concerns or individuals, no matter how difficult the transportation problems on their holdings are. The instrument can be purchased from stock, or can be rented with complete services from George Steiner, Cotton Exchange Building, Houston, who is the sole representative of the original Eotvos Torsion Balance in America.

Sulco Oil Field Putty Is New Product

Sulco Oilfield Putty is the name of a new product put on the market recently by The Sullivan Company, Memphis, Tennessee.

This putty is composed of asbestos, graphite, and other chemicals and is used on pipe line connections, water lines, valve fittings, for making tight connections. It is waterproof and oil proof and is also a lubricant.

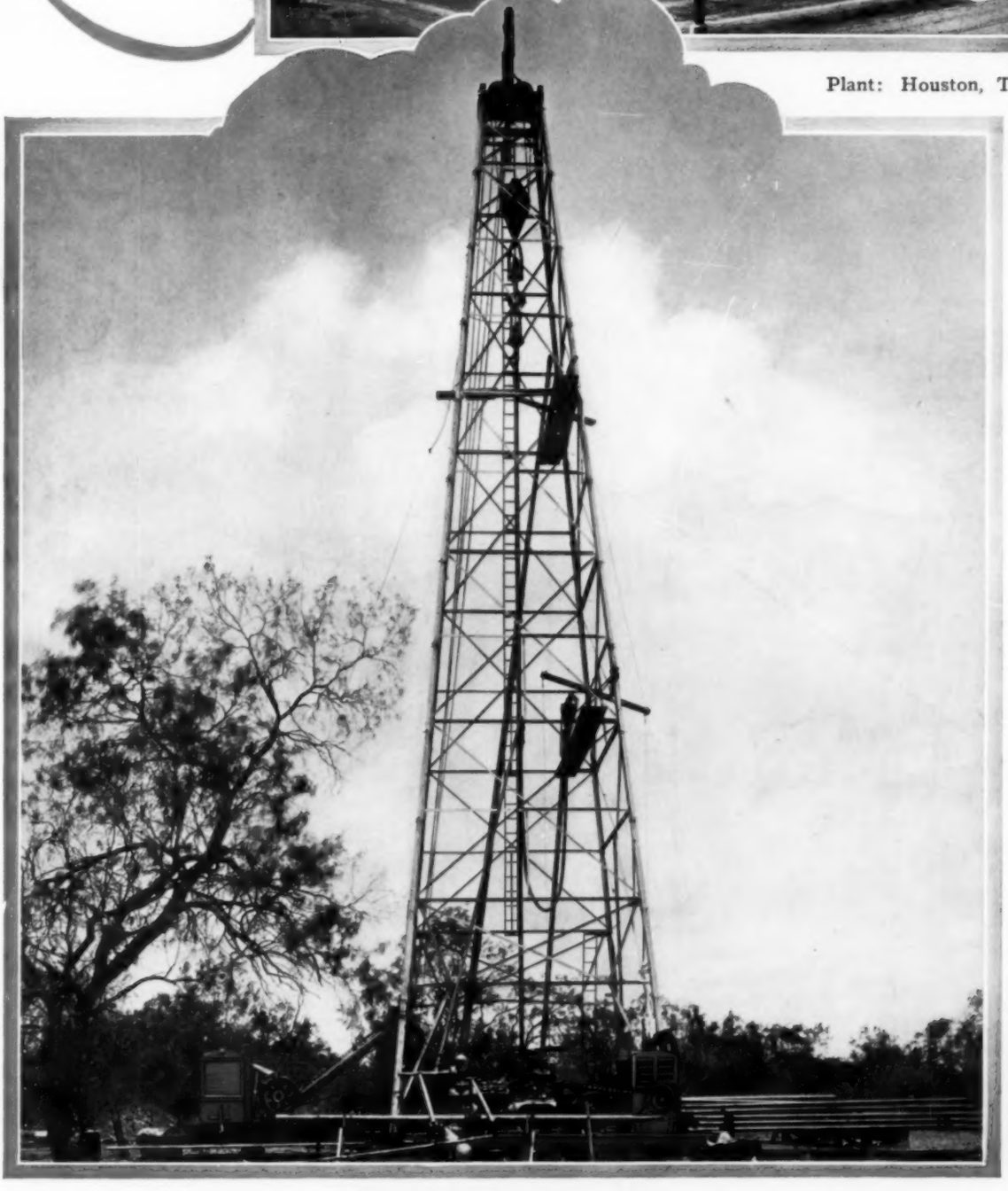
The product is recommended for use in making up and breaking out.

More information can be obtained from the company.

Save it. This issue should not be laid aside after one reading. It will be handy all next year when you need some equipment for that particular job that is always coming up.

PORTABLE ROTARY RIG CO.

Plant: Houston, Texas



HOUSTON, TEXAS

4,000 Ft. Heavy Type Drilling Rigs

Fig. 1. Illustration at left shows Heavy Type Portable Rotary Drilling Rig in operation on deep well, equipped with two 125 h. p. Waukesha "Ricardo Head" Oil Field Power Units and "Oil Well" Imperial Giant Power Pump 6¾" x 14" operating Three-Speed Heavy Duty Draw Works on 122 ft. steel derrick using 5" drill stem.

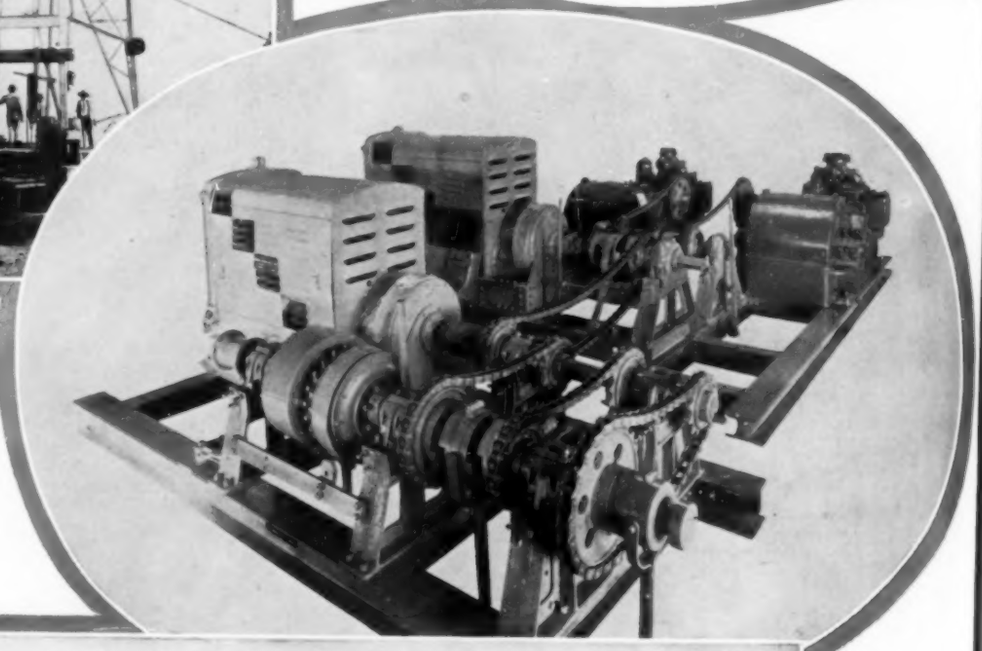


Fig. 2. Three - Speed Draw Works Power Unit and Double Compound Pump Unit equipped with two 6¾" x 12" Power slush pumps and two 125 h. p. Waukesha "Ricardo Head" Oil Field Power Units.

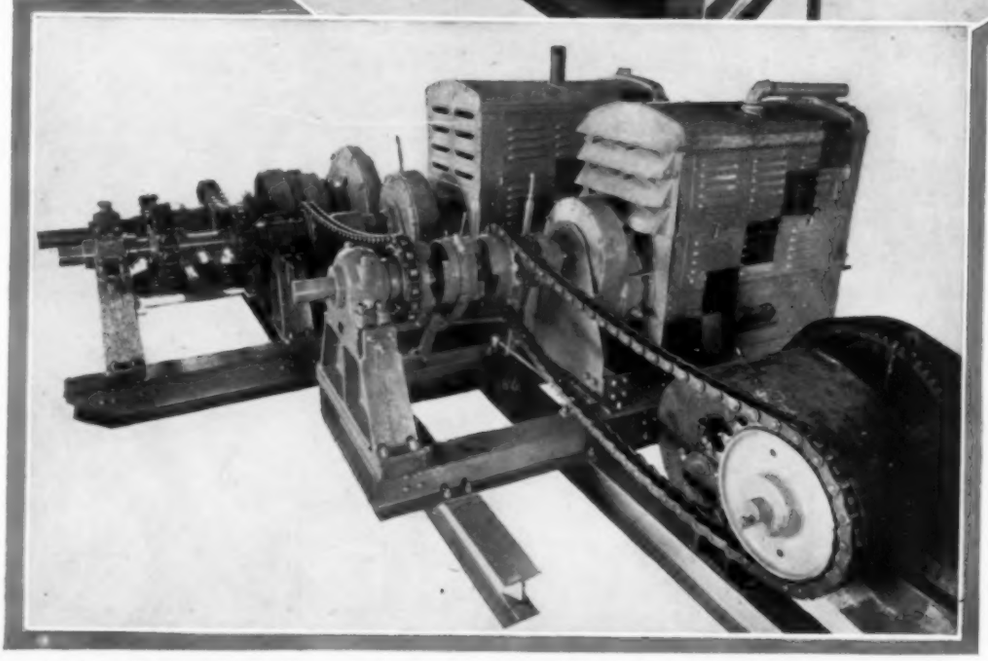
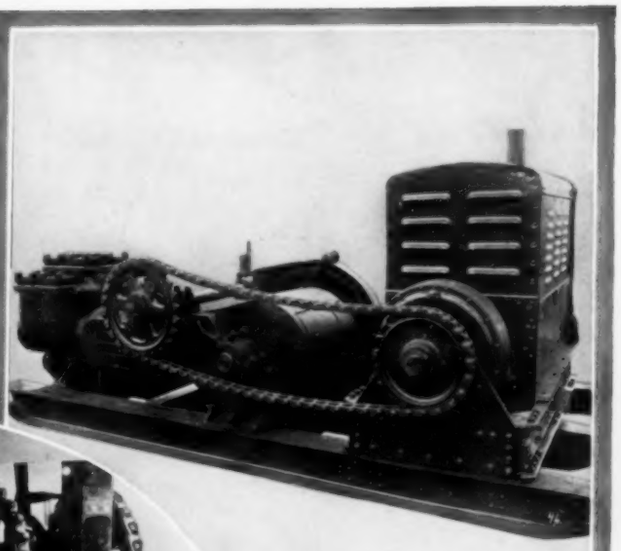


Fig. 3. Here you see the manner in which the power of either engine, singly, or both together, can be diverted to the Draw Works Power Unit for use in pulling extra heavy strings of drill stem or casing, assuring ample power at all times.

2,500 Ft. Medium Size Drilling Rigs

Fig. 4. Illustrated below is our Three-Speed Draw Works Unit. This entire Unit is mounted on one structural steel frame, and in moving from one location to another it is not necessary to tear down the Draw Works. This Rig is designed for use in connection with any size or type of derrick desired, and can be furnished with 60, 75, 100 or 125 h. p. engine to suit customers' requirements, being built entirely of steel.



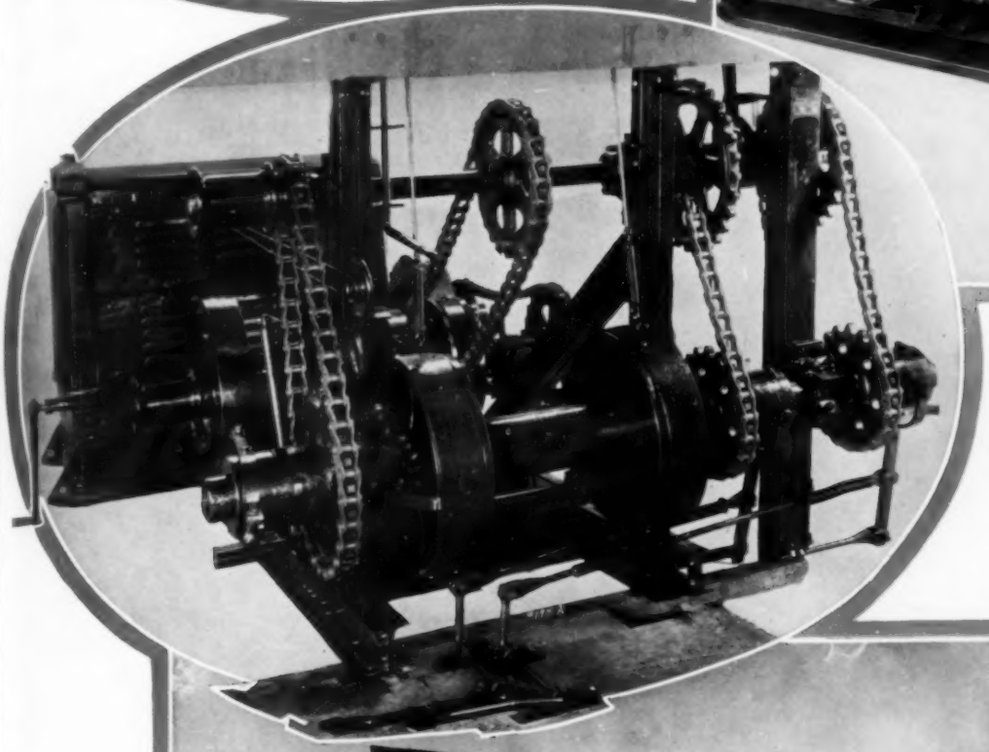


Fig. 5. Illustrating an "Oil Well" Imperial Giant Power Pump, capacity 1000 lbs., operated by 100 h. p. Waukesha "Ricardo Head" engine.

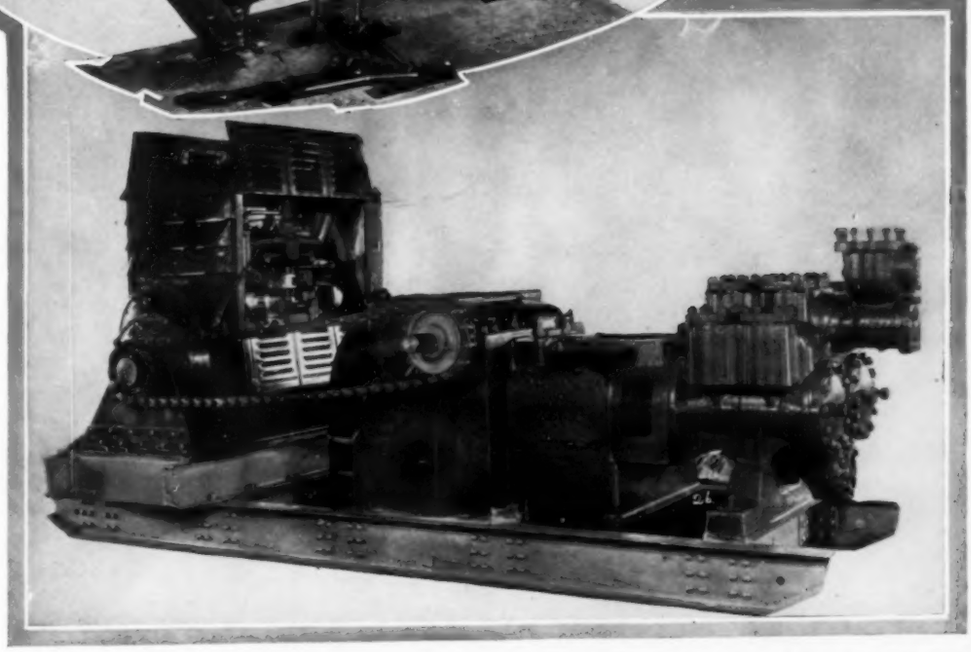


Fig. 6. Extra heavy Pump Unit equipped with "Gardner" Enclosed Type Oil Bath 6¾" bore by 12" stroke Power Pump, operated by a Waukesha "Ricardo Head" Oil Field Power Unit.

1200 Ft. Light Drilling Rigs

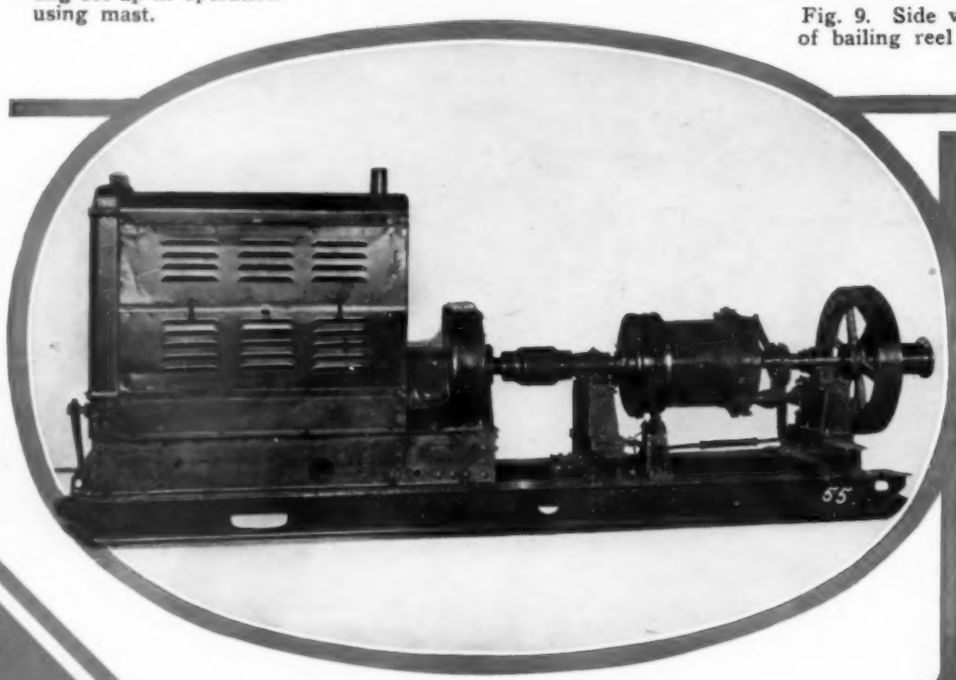
PORTABLE ROTARY RIG CO.
HOUSTON, TEXAS

Fig. 8. Front view of Rig set up in operation using mast.

Fig. 7. This Rig is designed primarily for geological work and can be furnished for use with a steel mast as illustrated or a small derrick if preferred. The Engine, Draw Works, Pump and Mast are all mounted on a heavy steel wagon, which is equipped with wide flange wheels for moving over soft ground.

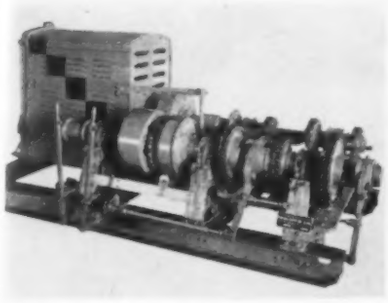
This type of Rig we furnish complete with steel Rotary, Oil Bath Swivel, 26 ft. Grief Stem, Rotary Hose and all equipment except, Drill Stem, Bits, and small tools. We can furnish independent bailing reel for use in operating new style Collapsible Bits, eliminating the necessity of pulling drill stem to change bits or take cores.

Fig. 9. Side view of 1200 ft. Rig showing use of bailing reel for operating Collapsible Bit.



Cable Tool Drilling Unit

Fig. 10. Waukesha Oil Field Power Unit 100-125 h. p., equipped with heavy type Reduction Gear connected through flexible coupling to extra heavy Multiple Disc Type Reversible Clutch. This Unit can be moved complete from one location to another on any oil field truck.



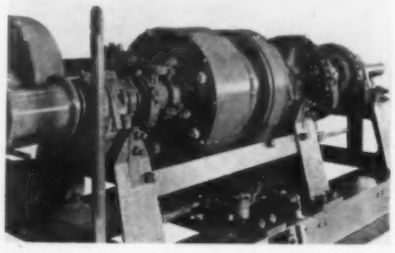
Portable Rotary Rig Draw Works

Portable Rotary Rig Makes New Unit

Portable Rotary Rig Company of Houston have during the past year developed a new design of rotary drilling unit for drilling deep wells. Also a new design of engine for pumping deep wells, together with a natural gas carburetor operating on an entirely new principle, the operating results obtained equal gasoline and effect material savings, together with obtaining maximum efficiency.

Draw Works

The three speed draw works power unit equipped with 125 horse power engine was designed to meet the needs of operators for gasoline—natural gas operated rig for drilling deep wells using internal combustion engines where cost of fuel oil and necessary amount of water prohibited use of steam operated rigs.



Portable Rotary Rig Multiple Disc Drilling Clutch

This type of unit is built on one structural steel frame equipped with either two or three speeds as desired, together with having a special type multiple disc reversible clutch mounted on heavy shafts with adjustable bearing boxes.

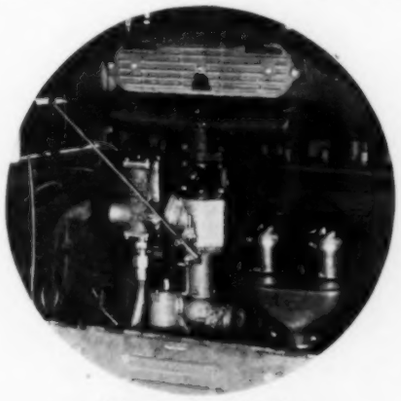
This unit is so designed that operator can utilize power of both engines, on draw works and pump units, when pulling long strings of drill stem or in setting casing, and is thereby assured ample power at all times, together with maximum efficiency due to various speed reductions.

The entire unit is built of steel throughout, however in moving from one location to another the motor can be removed from unit in order to handle readily to new location.

Gasoline-Gas Engine

Multiple Disc Drilling Clutch

The portable multiple disc drilling clutch was designed for use on the draw works power unit for rotary drilling. Its capacity is 300 horsepower.



Natural Gas Carburetor.

The clutch is equipped with eight 20-inch asbestos woven friction discs having steel cut ring gears and pinions running in an oil bath.

The entire assembly is of all-steel construction and all necessary adjustments are readily accessible.

Gasoline-Gas Engine

The new design Waukesha gasoline-natural gasoline industrial engine, is particularly adaptable for use in pumping deep wells and for continuous service requirements.

Its capacity is 80 horsepower. It has four cylinders, six-inch by seven-inch bore.

Natural Gas Carburetor

A portable natural gas carburetor for use on the multiple cylinder engines has been developed. This carburetor can be mounted with the gasoline carburetor on the engine intake manifold. Either fuel can be used without alterations or adjustment, by switching from one fuel to the other without stopping the engine.

The Portable Rotary Rig Company, 1816 Nance Street, Houston, will provide further information on all these products.

Victaulic Leak-Proof Flexible Joint

The new Victaulic leak-proof flexible pipe joint is just now being introduced to the oil industry through the Smith Separator Company, sales agents, Tulsa, Oklahoma.

Victaulic Leak-Proof Flexible Joint

This joint comes from England where it was developed and perfected.

The joint is made to fit easily and quickly over the pipe joint and, once locked, it is not only leak proof but is said to have the greatest possible strength.

The special rubber composition packing ring fitting inside the coupling seals the joint against leakage. The joint works on a grooved pipe, furnished by the mills instead of threaded pipe, with flanges fitting into the grooves.

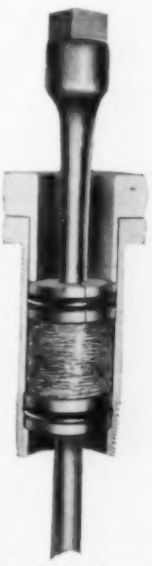
Tightening of two bolts locks the joint firmly in place where it will remain until the bolts are loosened.

While comparatively new in the oil industry, it has created widespread interest among pipe line companies, production companies for pipe lines, and tests that have been conducted have proven conclusively that this new joint is destined to be popular in the oil country.

The Victaulic coupling has been tested on practically all fluids, including natural gasoline, refined gasoline, and has given perfect satisfaction on all fluids up to 180 degrees temperature.

Emery & Company Offer Black Stuffing Box

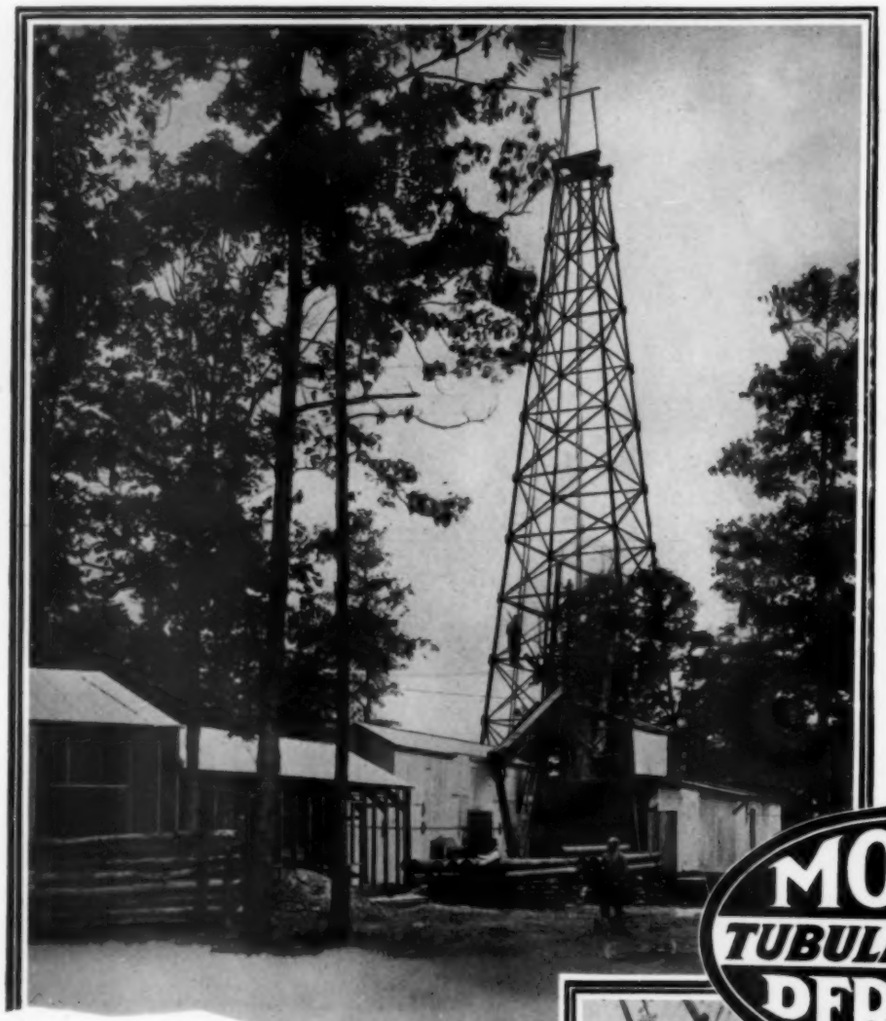
B. V. Emery & Co., Inc., Tulsa, dealers in oil field specialties, announce the Black Stuffing Box, a new product of special merit, according to the company.



Black Stuffing Box

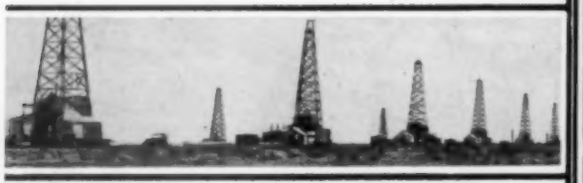
The stuffing box embraces several departures from the conventional type in that it packs around the sucker rod or pony rod instead of the polish rod, that it does not use rubber packing, that it uses bronze instead of cast iron followers, and that the body of the box is made of malleable iron.

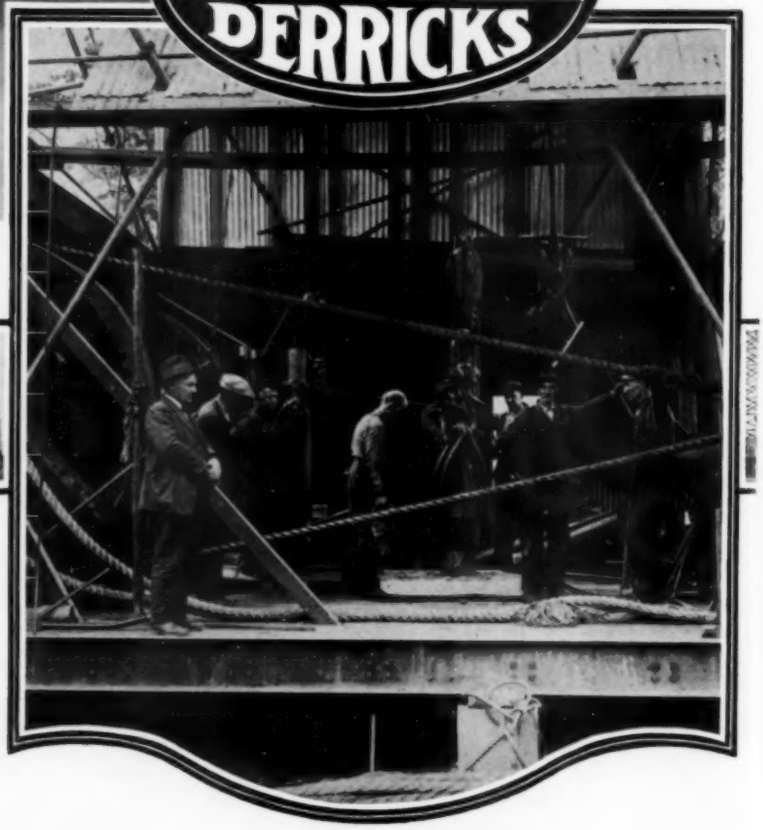
Further information on the box can be obtained from its distributors.



Moore 88 - Foot All - Steel Standard Drilling Rig, near Tidiante, Pennsylvania. With it of Baltimore, drilled 4455 feet in of Baltimore drilled 4455 feet in 45 days without an hour's delay due to derrick or rig trouble, setting 4455 feet of 8-inch casing weighing nearly 200,000 lbs.

MOORE
TUBULAR STEEL
DERRICKS





Without Delay

In the woods back of Tidiante in Northwestern Pennsylvania, the Fidelity Petroleum Corporation of Baltimore, Md., has been drilling quite a hole for that part of the country. It's the talk of the countryside for miles around. With a Moore all-steel rig, they drilled 4465 feet in 45 days, and at this writing, are still hard at it.

The President, Mr. W. M. Charlesworth, writes as follows:

"We have not had one hour's delay due to derrick or rig, nor have we had any expense due to breakage or poor construction. Should we get a well here, we will want four more All-Steel outfits like the one we have."

There is nothing unusual about Mr. Charlesworth's experience with a Moore all-steel rig. But it's mighty fine just the same to have customers who have paid their money and accordingly have a right to consider the transaction closed, take the trouble to write you afterwards such words of praise.

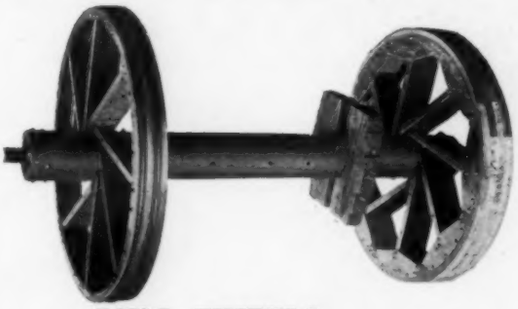
For our part, we are more interested in the derrick after it leaves the shops than before it is sold. So we doubly appreciate the many communications that come to us regarding their performance.

LEE C. MOORE & CO., Inc.

Pittsburgh, Penna.
Tulsa, Okla.
Shreveport, La.
Casper, Wyo.
Dallas, Texas
Parkersburg, W. Va.

MOORE STEEL WHEELS

MOORE STEEL WHEELS



BULL WHEELS

The original all-steel bull wheel, improved through many years of field experience. Built almost throughout of heavy unbreakable rolled steel, for longest wear and hardest service. The tug is one-piece rolled steel. Shafts are 16-inch or 18-inch diameter, and brake face 9-inch or 12-inch as desired. Ask for catalog.

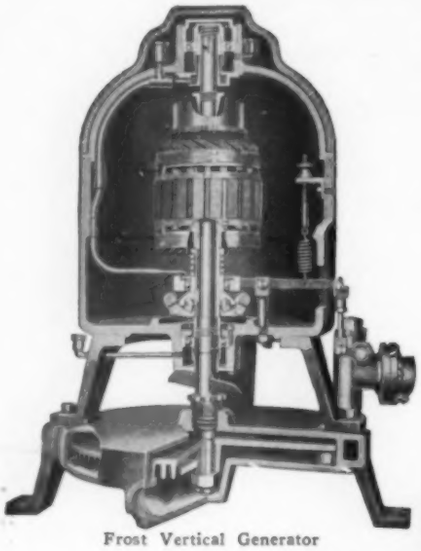
CALF WHEELS

Made for any size or make of rig irons. Rim plates are made up of rolled steel-plate segments between which standard wood brake cants are bolted. Three sizes. Ask for catalog.

STEEL BAND WHEELS

Tug rims and Channel spokes are made of rolled steel, with heavy cast iron flanges. Wheels are made for 4½, 5" and 6" shafts. Standard wheel faces are 12" and 15". Ask for catalog.

Carried in stock by
International Supply Co., Stores



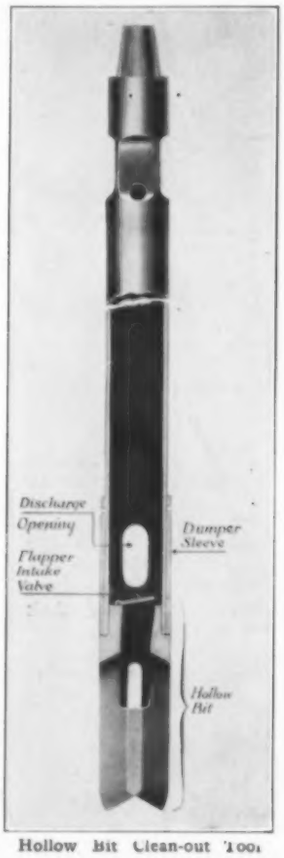
Frost Vertical Generator

Becker Specialty Company Improves Four Items

Becker Specialty Company, Tulsa, has among the other specialties it carries four items that have recently undergone improvements of interest to producers.

Vertical Generator

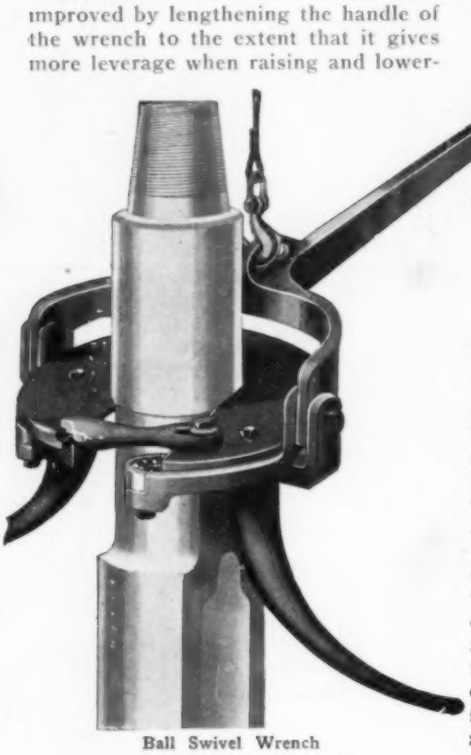
The Frost Vertical Generator has been improved by replacing the aluminum turbine wheel with one of bronze in order to overcome certain alkali water conditions. The governor valve adjusting link has also been redesigned and made into one solid piece. This was done to make the generator as near fool-proof as possible.



Hollow Bit Clean-out Tool

Ball Swivel Wrench

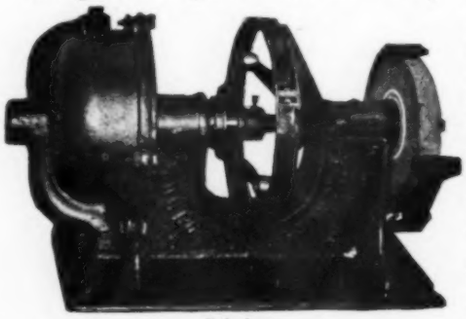
The Ball Swivel Wrench has been improved by lengthening the handle of the wrench to the extent that it gives more leverage when raising and lowering the tool. The throat and diameter of the top plate have been enlarged to swing the heaviest bits without binding in any way.



Ball Swivel Wrench

Turbo Grinder

The Kiester Turbo-Grinder has been improved by putting a guard between the governor guard and the emery wheel, so that if the user's hand should slip off the emery wheel, it could not get into the revolving governor. A governor stop has also been installed so that the grinder is safe from every standpoint.



Grinder

Clean Out Tool

The Hollow Bit Cleanout Tool has been improved by having the sub and the long tube that gathers the drillings that are being cleaned out, welded together and made into one piece. The dumber sleeves has also been rearranged so that it is screwed onto the bottom of the mud tube where it has a shoulder to substantiate it and in this way the two joints have been eliminated.

Complete information may be had on all these items by writing the company.

New Two - Ton Truck Made by Graham Brothers

The latest additions to the line of commercial cars and trucks being sold by Dodge Brothers dealers are two new types of two ton capacity. Like their smaller predecessors the new chassis will be supplied with a variety of bodies suited to practically every requirement. Two lengths only are made; the shorter, for 9-foot bodies, has a wheel base of 137 inches and the longer, which is for 12-foot bodies, has a wheel base of 162 inches. Both chassis are equipped only with penumatic tires, with either single or dual rears optional. Where single tires are used 32x6 inch size are fitted in front and 34 x 7 inch at the rear. For dual rear tire equipment disc wheels are standard with 34 x 5 inch tires both front and rear.

The pressed steel frame side rails for the shorter chassis are 7 inches deep and for the larger 7⅛ inches. Due to the lower bending moments in the short frame its thickness is 3/16 inch while that of the longer frame is ¼ inch. Front springs on both chassis are 37 inches long, 2 inches wide and have 9 leaves, while the rear springs are 56 inches long, 3 inches wide and have 11 leaves. The semi-floating rear axles employ a spiral bevel gear final drive with a reduction of 6.286 to 1. Both service and hand brakes are of an internal self aligning type operating in heavy pressed steel drums at the rear hubs. The brakes are so connected that the pedal lever actuates only two. This feature, it is declared, insures long life and even wear of the brake facings.

The power unit consists of the well known Dodge Brothers four cylinder engine which has given such satisfactory service in Graham Brothers trucks and motor coaches with a heavy duty truck type transmission. The heavier frame, springs and other chassis parts insure service with two- ton loads just as satisfactory as that supplied by the smaller trucks hauling the loads for which they were designed.

Dodge Brothers ¾-ton commercial cars and Graham Brothers three capacities of trucks with bodies specially designed to fill the requirements of over 400 different vocations now meet over 90 per cent of all commercial haulage requirements.

Further information may be had from Graham Brothers, Detroit, Mich.

Ford Specialty Company Offers Two New Items

Two items perfected by the Ford Specialty Company, 643 Mesquite Street, Los Angeles, the Ford Vacuum Seal Pump and the Superior Tubing Drainer, have caused considerable interest among operators in the California fields.

Superior Tubing Drainer

The Superior Tubing Drainer is designed to drain the fluid from the tubing thereby eliminating "wet jobs" and saving the oil usually lost during a pulling job. This tubing drainer is very simple to operate, one complete turn of the tubing opens a valve which positively drains the fluid from the tubing. The valve is so constructed that it will not leak, the more fluid in the tubing, the more positive the seating of this valve.

Superior Tubing Drainers are manufactured in all sizes: To run on 2-inch tubing in casings from 5 3-16 to 6⅝ inch, on 2½-inch tubing in casings from 6¼ to 8¼-inch and on 3-inch tubing in casings from 6¼ to 8¼-inch.

Vacuum Seal Pump

The Ford Vacuum Seal Pump is a loose fitting, three tube plunger type pump. It is free dropping. It uses no packing. All slippage is eliminated by an entirely new scientific principle as applied to oil well pumps.

The feature which especially appeals to the operators is the positive standing valve jar and puller which feature entirely eliminates wet jobs. This feature allows this pump to be run on the rods, saving time usually spent pulling the tubing. Simple construction with all parts interchangeable allows quick and inexpensive replacement of worn parts.

The loose fitting tubes give the pump a free dropping motion, minimizing rod wear and trouble. The standing valve and the lower extension are only six to seven inches apart at the bottom of the stroke and this feature prevents gas lock in the pump. Three sizes are manufactured —to run in 2, 3¼ and 3-inch tubing.

Full particulars will be furnished upon request to the Ford Specialty Company, 637-651 Mesquite St., Los Angeles, or to Allen L. Haase,, 107 Toluma Bldg., Tulsa.

Nabors Trailers Have Exclusive Features

The chassis hitch and body bolster is said to be an exclusive feature of the Nabors trailers, an improvement recently added. This new method of hitch will facilitate the operation of lease trucks using Nabors trailers.

The hitch attaches directly to the chassis without the use of the bolster assembly that generally is used on other types of hauling, and the bolster is placed on top of the regular bed by means of a single pin that may be drawn quickly when desired and the type of load changed.

Another advantage claimed by the manufacturers of Nabors trailers, which they say is of special interest to oil field truck operators, is the positive draft accomplished by the draw bar being attached directly to the rear axle assembly which prevents side whip; the load being carried by the upper bolster entirely independent of the draft.

More detailed information will be supplied by the W. C. Nabors Company, Mansfield, Louisiana.

Guide Prevents Wear of Rods and Tubing

W. C. Smith, Box 645, Corsicana, Texas, is manufacturing a guide for pump-rods that is giving profitable results where it has been used. The guide is recommended to eliminate shut-downs.

Simplicity predominates in the guide it consisting of a bushing and three wedges. When fastened on the rod at the coupling, the guide holds the rod to the center of the tubing and prevents wearing.

Instructions for installing the guide, furnished by the manufacturer, are as follows:

Take hold of the rod-end, disconnected (i. e., without joint-coupling).) Place the three wedges around the rod, a few inches above the collar, the thick end of the wedges upward.

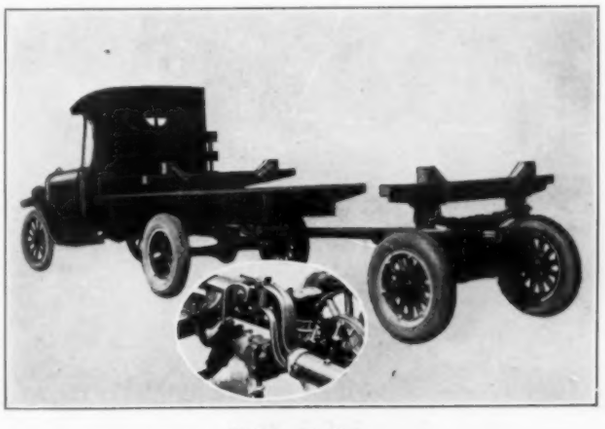
With the other hand, slip the bushing, large end upward, around the wedges, with the friction or wearing-strips of the bushing opposite the wedges.

Now, using a hammer, drive the wedges tightly into the bushing.

In the groove at the ends of each wedge, place a safety wire around the three wedges. Twist each wire tight and bend the ends into the grooves.

It is claimed that by placing a Smith guide above a coupling that is wearing itself and cutting the tubing, there is no need to replace the partly-worn coupling; the guide will prevent further wearing of the coupling.

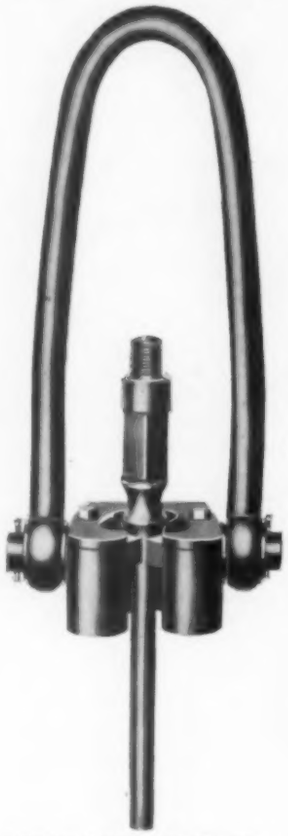
Further information with literature on the guide will be furnished by W. C. Smith, Box 654, Corsicana, Texas.



Nabors Trailer.

Shaffer Specialty Company Offers Many New Items

During the present year Shaffer Specialty Company, Tulsa, has introduced a variety of new specialties to



Shaffer Sucker Rod Elevator

the general oil trade, all of which are meeting with an active demand.

Sucker Rod Elevator

The Shaffer balanced sucker rod elevator was designed to insure maximum safety and speed in operation. The case hardened center block is reversible and will catch all sizes of rods from five-eighths to seven-eighths inches, inclusive.

Trunnions in this elevator are set above the center of the body to insure perfect balance and to equally distribute the load around the circumference of the block.

Sucker Rod Spider

The Shaffer sucker rod spider handles all size sucker rods and fits two, two and one-half and three-inch tubing.

Shaffer Sucker Rod Spider

Slips for all sizes of rods are furnished with each spider.

Safety "S" Link

The Shaffer safety "S" link has a high overload factor. The snaps work freely, yet postively in snapping into the line or the bail and once hooked, will not come unhooked except by hand.

Shaffer Safety "S" Link.

Shaffer Swivel "S" Link.

Swivel "S" Link

The Shaffer swivel "S" link is used in connection with the Shaffer rod spider. It is said to insure a perfect swivel of the line. The swivel works on a ball bearing, in a dust proof housing, assuring free action.

Sucker Rod Hook

The Shaffer safety double lock sucker rod hook, common bail, works on a roller bearing in a dust proof housing. The hook is so designed that there are no corners to obstruct in either running in or coming out. The handle controlling the lock on hook operates freely, yet cannot work loose and allow the rods to fall.

The double lock sucker rod hook with "S" link bail has the "S" link substituted for the ordinary bail. The advantage of this type hook lies in its extremely high safety factor.

Shaffer Sucker Rod Hook with "S" Link Bail.

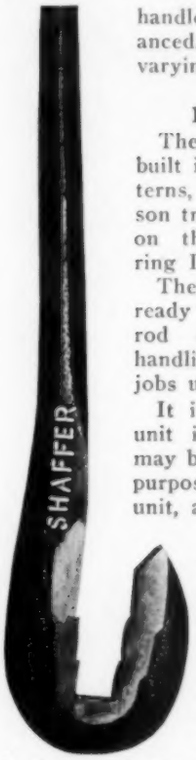
Pick-up Iron

The Shaffer pick up iron is designed for double service, since it is really two sizes in one, eight and ten-inch. It is recommended for use in deep wells especially.

Shaffer Sucker Rod Hook

Sucker Rod Wrench

The three-in-one sucker rod wrench is light in weight, easily handled and well balanced. It handles rods of varying sizes.



Bear Cat Hoist

The Bear Cat hoist is built in two different patterns, one for the Fordson tractor, and the other on the McCormick-Derring International tractor.

The Fordson unit is already extensively used for rod and tubing work, handling tubing and rod jobs up to 2500 feet.

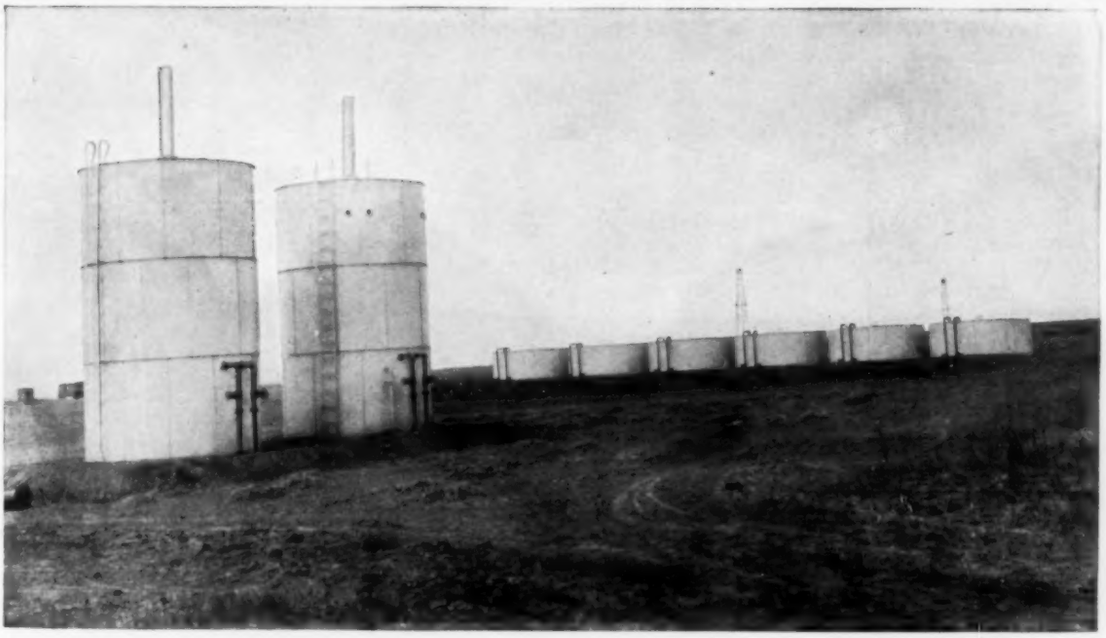
It is a true multi-plex unit in that the tractor may be used for any tracpurpose with the winch unit, attached to the rear axle, instantly available for rod and tubing and winch jobs.

It is designed for rough service.

The McCormick Derring International Bear Cat was designed with the front end winch with reel space for 4500 feet of half-inch sand line and is used for bailing, rod and tubing jobs and also has been successfully used for handling casing.

It is a multiple unit since as a tractor it may be used for hauling, for filling ditches, grading and a multitude of other uses, as well as for well work. Power is taken from the rear end by a chain drive, idler adjusted.

Shaffer Pick-up Iron



"Best Battery of Tanks I Ever Saw"

was the comment of a man who has had a lot to do with field tanks in all the oil fields of the country.

And the Columbian Bolted Tanks on this lease (NW¼ of Sec. 15-25-2W, Ponca City district) are as good as they look.

The two 3-ring 750 barrel flow tanks have:

12 gauge bottoms,
12 gauge sides,
12 gauge decks,
12 gauge stacks

and interior reinforcement, making them capable of carrying up to 2 pounds gas pressure if necessary.

The six low 500 barrel stock tanks also have:

12 gauge bottoms,
12 gauge sides, and
14 gauge decks.

Both the flow tanks and the stock tanks are of vapor tight construction—evaporation on this lease is nil.

A feature of this installation, not often seen, is the carrying of the lines underground from flow to stock tanks.

The unrivaled Columbian field organization is making installations like this every day and many nights in all fields. Each unit maintains adequate stocks and trained erecting crews for day and night duty. Specify Columbian and you can depend upon the best in tanks and in service.

COLUMBIAN STEEL TANK COMPANY

EST'D 1894

TANKS FOR THE WORLD

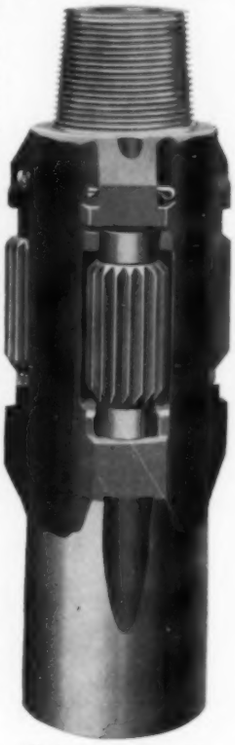
1405-1625 WEST 12TH STREET KANSAS CITY, MISSOURI

"Holemaker" Rock Bit

Bridgeport Making Line Of Rotary Drilling Tools

The Bridgeport Machine Company, well known cable tool manufacturers have now entered the rotary tool business with the introduction of their "Holemaker" line of rotary drilling bits. C. E. Reed, whose inventions are known and used wherever rotaries are operated, is the patentee.

The "Holemaker" line comprises three distinct tools: The Rock Bit; the Disc Bit and the Reamer. The Rock bit is so constructed that the two styles of cutters, the hard rock cutters and the split cone type cutters are interchangeable in the drill head. The split cone type cutters are designed for broken formations where the breaks are soft or sticky as many of the formations are in Oklahoma and the Panhandle.



"Holemaker" Reamer

Those who have used the "Holemaker" Rock Bit claim that it is marvelously convenient on the derrick floor, as the shanks and reamer connections are all interchangeable the same as tool joints, and no time is lost in lying down or picking up to make connections. The lubricating device is entirely eliminated, the bit being of the slush lubrication type.

"Holemaker" Disc Bit

Disc Bit

The "Holemaker" Disc bit is used in soft rock, shale, sandy soft lime, and broken formations. The body of this bit is a one-piece forging. Discs are of the same material and treated the same as rock bit cones. The shank has regular tool joint threads to run in the fish tail drill collar. The four sides reduce the work to be done by each disc which lengthens the life of the discs and maintains the gauge of the hole.

Bridgeport Hychrome Drilling Bit

Reamer

The "Holemaker" reamer is used with either rock bit, disc bit or fishtail bit. It is regularly made with three cutters but is also made in four cutter style if desired. The reamer is strong and durable, having unusually large, safe bearings for the cutters. The bearings are inserted laterally with the cutters and are held against displacement by a large diameter lock pin and cotter key. The reamer has tool joint pin up and tool joint box below.

All these tools are said to be making remarkable records in both hard rock and broken formations. Further information with descriptive literature can be secured by addressing the Bridgeport Machine Company, Wichita, Kansas.

Hychrome Drilling Bit

The Bridgeport Machinery Company announces a drilling bit with a guaranteed pin. It is claimed that this pin will not "jump."

The bit pin is made from a metal with unusual strength, elasticity and hardness.

Bridgeport has been testing this Hychrome drilling bit throughout the Mid-Continent field and the Rocky Mountain district for over a year and the bit has been given the usual severe field treatment.

East set of the bits is sold with a written guarantee that if the pin of the bit "jumps off," "pulls off," or "breaks off," the bit will be replaced.

Oil City Iron Works Core Barrel

The perfection core barrel as manufactured by the Oil City Iron Works, Shreveport, Louisiana, is now manufactured under the guidance of the Shreveport Testing Laboratories, a neutral firm of chemical and metallurgical engineers, serving the oil industries.

The inner barrel has left hand thread and is screwed to lower connection. Inner barrel comes in five-foot sections. By adding sections you can take cores up to 25 feet in length. A split core retainer is placed inside of inner barrel. This core retainer also comes in five-foot sections. A ball and cage is screwed on top section of inner barrel.

The heads are made from nickel chrome steel and are given a special heat treatment. The cutting blades are tipped with stellite.

To remove the core, the barrel is broken at the top tool joint, the inner barrel is exposed by unscrewing the cage, the split liner is projecting through the core barrel and a convenient hook is provided for pulling the split liner from the stationary barrel bringing the core out in the liner.

Literature and further information is available from the company.

Perfection Core Barrel.

THE SHAFFER SPECIALTY CO.

Patented Oil Well Equipment

113-115 South Denver

TULSA, OKLAHOMA

Six years of conscientious endeavor has built this institution from a modest beginning to its present dominant position in the Oil Tool Specialties field.

THE SHAFFER SPECIALTY CO.

The Shaffer Double Lock Sucker Rod Hook with common bail . . . safer than the safest . . . simple in construction . . . natural in operation . . . has met with universal acceptance among the operators. Ball bearing, dust proof, it swivels the line perfectly under all working conditions. It can not pinch the fingers or hook on the derrick girths.

The Shaffer Double Lock Sucker Rod Hook with "S" Link bail is the last word in safety. Dust proof ball bearings give a perfect swiveling of the line under any working condition. It is quick in action, absolutely safe in operation, powerfully built and is simple in construction that it will render maximum service indefinitely.

SHAFFER'S SWIVEL Safety S Link*** Especially valuable in use with the sucker rod Spider as it eliminates the use of the so called Safety Rod Hooks, making a complete assembly from the line to the elevator, insuring a perfect swivel of the line at all times. Weight 30 lbs.

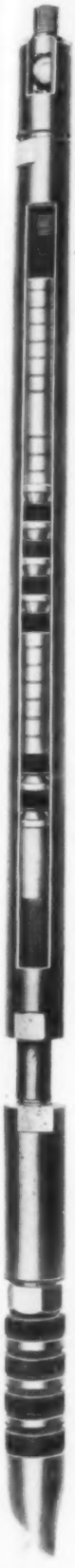
SHAFFER'S 3 in 1 Sucker Rod Wrenches* Made to fit all sizes of Sucker rod Squares, eliminating the use of several size wrenches. Properly designed and balanced to make it easy and fast to operate. Weight 6½ pounds.

SHAFFER'S TRIPLE DUTY Sucker Rod Spider*** is designed to accommodate all sizes of rods and to fit in 2-inch, 2½-inch and 3-inch Tubing. Eliminates the use of one Elevator, making a fast and efficient tool for this purpose. Slips for all sizes of rods furnished with each Spider.

SHAFFER'S SAFETY S LINK* A perfect Safety Link without loose bolts or nuts to loosen and fall off. Just snap it on the line and into the Hook Bail. Strong and Durable. Made in 1½-inch and 2-inch sizes of high grade Electric Steel.

THE SHAFFER SPECIALTY CO.

THE SHAFFER SPECIALTY CO.



Shaffer Safety Specialties

Shaffer Oil Field Specialties are safe . . . safe because they are designed and built to render maximum service efficiently with all troublesome features eliminated.

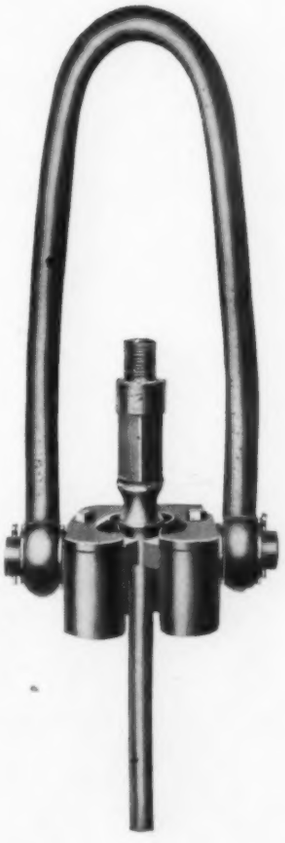
Every part that carries a load is made of electric steel or tool steel. And every part is built to stand up under the most severe service.

Designed by experts thoroughly informed of the work that each tool is to perform, and built to work perfectly under any working condition, Shaffer Specialties have built for themselves a reputation with the boys in the field that we are proud of.

We believe, sincerely, that our effort to build safety and maximum performance into every Shaffer product is appreciated by those who work with tools in the Oil Country. It is this appreciation that inspires us to continue our efforts to constantly improve the working efficiency and safety of Oil Field Tools.

We shall gladly send our complete Shaffer catalog on request.

Shaffer Pick-up Irons. Two Irons, 8" and 10", for the price of one.



The Shaffer Fluid Seal Liner Barrel, standardized, is well known to the oil country. All fittings are standard, making it possible to replace any worn parts easily from any supply stock. It eliminates many a tubing job since it is only necessary to occasionally pull the barrel.

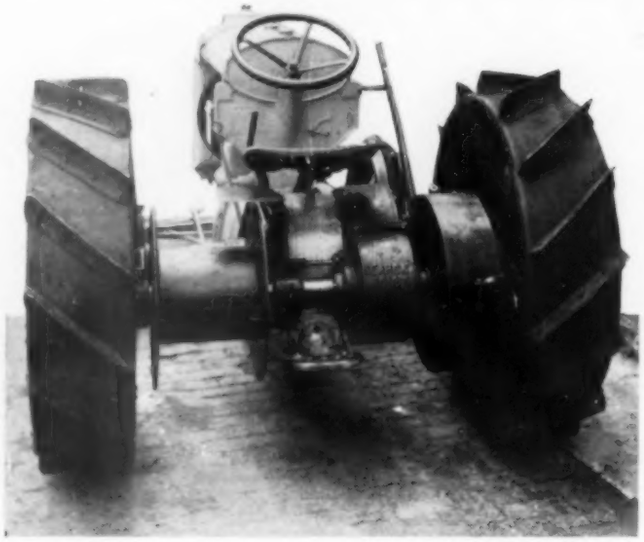
This barrel has rendered satisfactory service over long periods for many of the leading producers with whom it is standard equipment.

The Shaffer Sucker Rod Elevator is perfectly balanced, always in position for instant use.

The case hardened center block is reversible to fit all makes of rods from 5/8 inch to 7/8 inch, inclusive. This is the only part that wears and is easily replaced at small cost. This Elevator will not bend or kink the rods.

THE SHAFFER SPECIALTY CO.

THE SHAFFER SPECIALTY CO.



Rear view of Fordson equipped with Bear Cat Hoist

THE BEAR CAT HOIST

Multiplex Power Unit

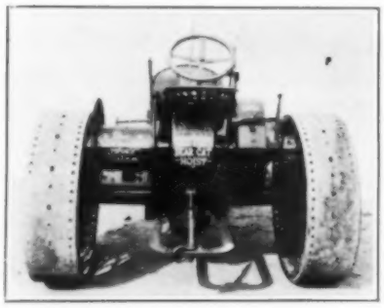
The Bear Cat Hoist, built into either the Fordson or International Tractor, is a real multiplex power unit of a vast number of uses in oil field work.

The unit may be used for transportation hauling heavy loads and is instantly available for pulling rods and tubing, bailing or casing work.

The International unit gives good roadability at speeds of 2, 4 and 10 miles per hour. It will handle 4,500 ft. of ½-inch sand line and has 900 square inches of braking surface. Built with winch either front or rear as shown by photographs below.

Fordson Bear Cat

The Fordson Bear Cat Multiplex Power Unit has all the roadability of the Fordson Tractor, coupled with high efficiency in service as a rod and tubing pulling machine. Works rod and tubing up to 2,500 ft. in depth easily at maximum speed. Powerfully built of the finest materials, it is a power unit that will prove its value on your lease.



Above photo shows rear end of International Bear Cat Multiplex Power Unit.

Both units have been thoroughly field tested and their performance has proven their economic value to the oil industry.

Hyatt Roller Bearings, Electric Steel and all other materials of the best, the Bear Cat can be depended upon to handle the job safely and efficiently without mechanical trouble.

Ask for Complete Descriptive Catalogue

Photo at left shows right side of International Bear Cat Multiplex Power Unit.

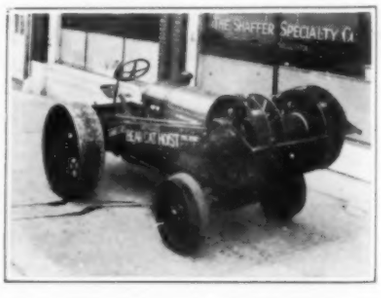


Photo at right shows left side of International Bear Cat Multiplex Power Unit.

THE SHAFFER SPECIALTY CO., Tulsa, Okla.

D. & B. Pump & Supply Has Three New Items

In order to meet the ever increasing demands of the oil industry for better tools, the D. & B. Pump & Supply Company, Los Angeles, California, has developed three new items during the past twelve months, each of which is recommended because of its efficiency.

Bushing Stub Plunger

The D. & B. Bushing Stub Plunger is a single fitting, said to do the work of two. The bushing and plunger are built in one piece, the bushing end being supplied with a wrench hold and is carbonized so that a wrench does not bite or slip.

Tubing Tong

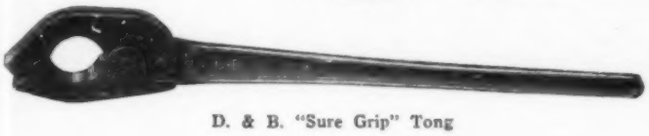
The "Sure Grip" tubing tong is light and easy to handle, made in sizes to fit any tubing. The handle is so designed that the tong can be swung onto the tubing from any angle, with an automatic latch feature, and when on the tubing the tong does not cant or slip downward. Interchangeable dies assure a bull-dog grip always.

L & R Mouse Trap

For fishing broken rods, the D. & B. Company recommends its L. & R. Mouse Trap. Actual results obtained justify the belief that practically any type of rod can be recovered by use of this tool. This tool fits over the rod over the coupling and in this manner secures a bull-dog grip that actually becomes tighter when the weight of the rod is engaged.

Additional information on any one or on all three of the devices will be supplied by the D. & D. Pump & Supply Company, Los Angeles, California.

Save it. This issue should not be laid aside after one reading. It will be handy all next year when you need some equipment for that particular job that is always coming up.



D. & B. "Sure Grip" Tong

Shaffer Flow Bean Sold By Atmore Company

After much experimenting, the Shaffer Tool Works, of California, has developed and put on the market an adjustable flow bean which is said to have proved successful in the Ventura Avenue and other Southern California fields, and is finding a ready market.

The device is a combination of Venturi tube and needle valve, the adjusting screw on the valve carrying graduations so that the orifice area in use can readily be seen. The simplicity of adjustment and the all-forged steel construction are salient features of the device.

The Robert N. Atmore Company, 913 East First Street, Tulsa, Oklahoma, is the distributor for this flow bean, and will provide further information on request.

New Gulfco Bradenhead Proves Effective

The "Gulfo" bradenhead, brought out by the Gulf Coast Machine and Supply Company, 316 West Building, Houston, Texas, or 305 Orange Street, Beaumont, Texas, is said to be proving effective in the Gulf Coast.

This bradenhead has an extra large amount of packing space, with ground joint seat between solid forged body and renewable inner ring. It requires one uniform size packing. Renewable forged gland permits the packing off of several sizes of casing with but one size bradenhead body.

The Christmas tree cross is forged from one solid piece of 45-point carbon steel and threaded with male threads so that nipples are not required.

Since the introduction of this equipment some of the large companies are adopting it as standard equipment.

Further information may be had from either address of the company, on request.

New Core Drill Said to Positively Seal Core

Taking cores can be easily and efficiently done with the use of the Gulco Core Drill, according to the manufacturers, the Gulf Coast Machine & Supply Company, Beaumont, Texas. This drill is a new item recently introduced to the oil trade.

"Gulfco" Bradenhead

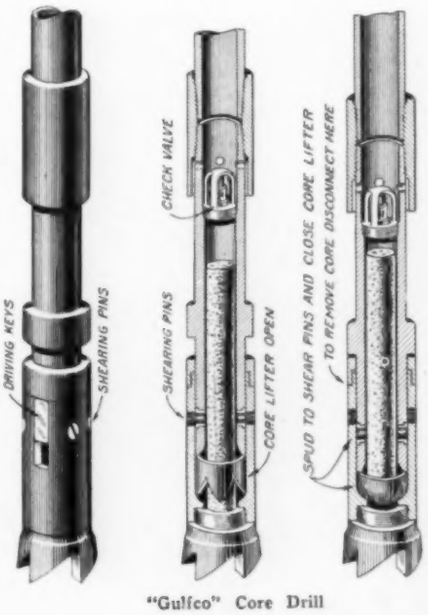
It is said that the Gulfco drill positively seals the core at the bottom of the well.

The core lifter, a piece of pipe cut to form a perfectly closed cup when forced down against the rounded edges of the drilling sleeve, is kept from collapsing under ordinary drilling pressures by the shearing pins. When the core is made the drill pipe is spudded, which shears these pins and closes the prongs of the core lifter.

Shearing pins can be used in combinations to shear at any weight between 14,000 and 68,000 pounds.

It is said that the burning of cores resulting from fast rotation under excessive pressures, is practically eliminated with this drill because it is easily closed when the core is taken.

Additional data can be had from the Gulf Coast Machine Company, Beaumont, Texas.

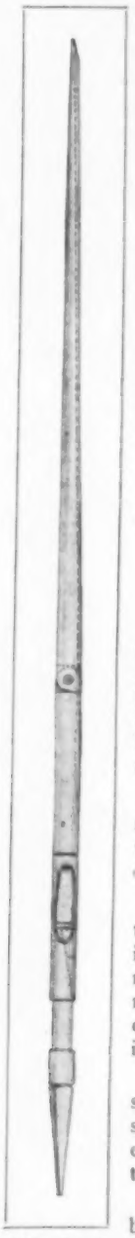


"Gulfco" Core Drill

Hinged Whipstock Is New in Oil Field Equipment

The Harrisburg Pipe and Pipe Bending Company of Texas, Inc., Sawyer and Winter Streets, Houston, Texas, recently announced a whipstock, said to be the first of its kind. A hinge is the principal feature of this new product.

The hinge is so constructed that the whipstock can not fall forward and obstruct the hole, necessitating the drilling out of the entire device. The hinge utilizes the principle of the pocketknife blade, which can be closed in only one direction.



It is also claimed for this whipstock that it mills out the casing in eight to 12 feet.

Added to the natural tendency due to gravity to force the convex side of the whipstock against the casing is the impossibility of the concave side falling forward.

More information will be supplied by the company.

Improved Tubing Slip and Spider

An improved tubing slip and spider, the invention of Frank Kinchbach, is being put on the market by the Harrisburg Pipe and Pipe Bending Company of Texas, Houston.

The spider has a bearing surface of 6¼ inches, all of which is in active use when the slips are in place.

The slips, as shown by the illustration, are made in four segments, all connected together, making necessary the handling of only one slip when they are in use.

It is impossible for these slips to fall through the spider into the hole whether or not pipe is in position.

The spider is flat on the bottom, which allows it to slide back and forth, keeping it at all times in line. It is fastened to the casing by means of a chain.

The spider is made of cast steel and the slips are made of special water hardened bit steel, insuring long life.

Further information, including blueprints, etc., can be secured from the company at Houston.

Save this issue. It is valuable and you will have several occasions to refer to it during the coming year.

Slip showing joined segments.

Safety Sucker Rod Hook For Steel Derricks

A new safety sucker rod hook, known as the "Roustabout" safety hook, is being manufactured and sold through supply companies by the A. H. Neilson Manufacturing Company of Tulsa.

This hook has been designed for use in steel derricks and embraces the latest in safety features to guard against accidents or mishaps in the field. It locks both inwardly and outwardly and can not become engaged with anything else in the derrick when in use. When locked it is absolutely tight and when once hooked can not be loosened except by the operator himself.

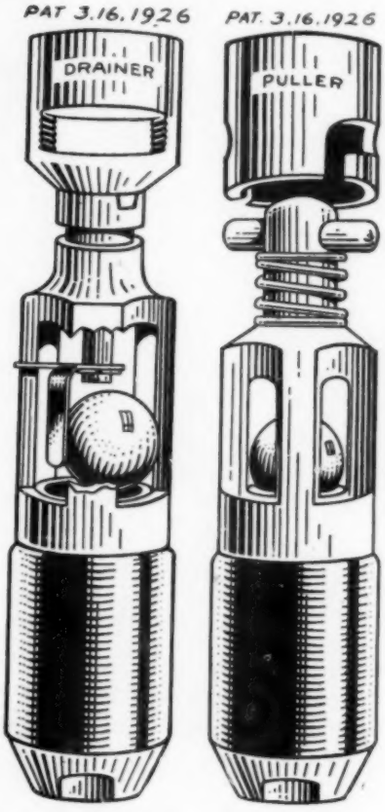
The "Roustabout" hook is manufactured with the same guarantee as all other equipment turned out by the company whose general offices and factory in Tulsa are located at 826 East Admiral Street.

Further information may be obtained by communicating with the company direct.

Slip and Spider Assembled

Tubing Drainer Cuts Down Weight and Saves Oil

Claims made for the Goss Tubing Drainer, being sold by the Petrolia Supply Company, Wichita Falls, Texas, are that it will save at least 10 barrels of oil in a 3000 foot well, and also that it will take about 3300 pounds of weight off the lift.



The drainer is installed by removing the old crown from the standing valve body. The drainer crown is then screwed on the standing valve body. The lower crown on the lower end of the traveling valve is removed and replaced with the two wing loop.

To operate lower the traveling valve until it rests on the standing valve, then turn to the right two or more complete rounds to insure locking. Withdraw the traveling valve. This action should be done quickly to insure taking the load off the ball.

More information will be supplied by the company on request.

PIPE LINE CONTRACTORS

OKLAHOMA
Contracting Company

~

WELDALINE
COMPANY

General Offices:
513-515 Thomas Building
Dallas, Texas

Branch Office:
Tulsa, Oklahoma

Hughes Gate Valve

Hughes Tools Improved And Items Added

In addition to its well known line of bits and tool joints, The Hughes Tool Company, Houston, Texas, has introduced several other items during the past year, all of which give promise of becoming as widely used as the old products.

Disc Bit Improved

In order to fit the Hughes Disc Bit for drilling hard formations, the pin design has been changed to provide for a 40 per cent increase in the length of the bushing thread.

The new locking device is said to eliminate practically all the wear on the bit head and at the same time to assure complete tightness while drilling.

Improves Rock Bit

The improved "apron washer" was designed to prevent wear on the head of the Hughes Simplex Rock Bit.

Instead of having a circular contour, this washer is more nearly rectangular in shape and provides protection for the head against the sand blasting action of the jet of mud above the cones. The washer is made to fit the Hughes Simplex bit head without change and extends from the pin up to the crotch of the bit where allowance is made for the passage of flushing fluid.

Hughes Improved Disc Bit

Gate Valve

The Hughes gate valve is the result of an effort to give to the industry a gate valve of maximum strength with minimum weight. The valve is manufactured from heat treated Hughes chrome nickel steel. An unusually large stem reduces the breaking hazard, and the Acme thread adds to the wearing qualities of the valve.

Each valve is tested for leaks at twice its working pressure before leaving the factory. A shock test is also made by opening the gate while under pressure.

Self-Cleaning Cone

The Hughes "self-cleaning cone" gets its name from the fact that the teeth of the cone clean themselves of all formation while rotating, thereby allowing maximum penetration into the formation at all times. Tests with these cones have shown them to be exceptionally well suited for drilling in chalk, anhydrite, sticky lime and hard sticky shale.

Hughes Improved "Apron Washer"

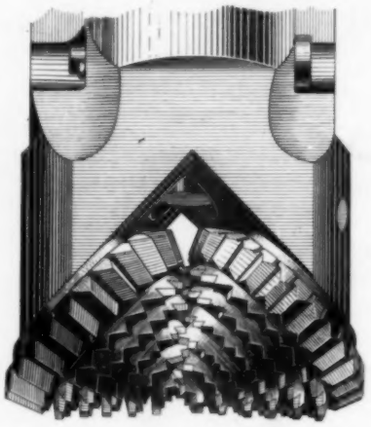
These cones can be used on the regular Hughes Simplex Rock Bit head.

"Pull Down" Rig

The Hughes "Pull Down" rig was developed to overcome the difficulties of drilling hard, shallow formations, encountered at such a depth that the weight of the drill pipe was insufficient to cause proper penetration of the teeth of the rock bit cones into the formation.

Essentially the device consists of a roller thrust bearing which can be attached to any shape or size of Kelly joint now manufactured. This bearing transmits a downward pull through the agency of the traveling block, and of a spring shock absorber which maintains approximately a constant load without frequent engagement of the draw works.

Descriptive literature on all these items will be mailed by the Hughes Tool Company, Houston, Texas, upon request.



Hughes Self-cleaning Cone

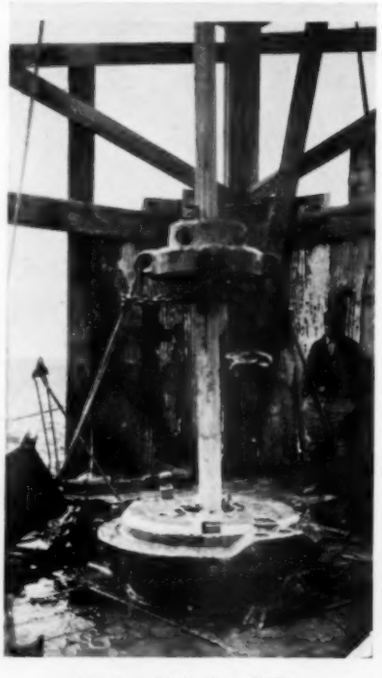
United Swab Barrel Is New Departure

The United Swab Barrel, recently placed on the market by the United Iron Works, of Tulsa, manufacturing under Winsor patents, is a new departure from the accepted type of working barrels.

By a special process of manufacture this barrel carries a positive fluid seal under pressure which eliminates "churning" and under tests conducted during the past year has demonstrated that it will reduce the b. s. content to a minimum.

It has the ability to handle "flour sand" over long periods without necessity of pulling the barrel for replacement of cups or worn parts. In some intances this barrel has remained for months underground, at peak efficiency, without pulling, it is said.

Another feature is the absence of trouble from "pounding down" on the rods.



Hughes "Pull Down" Rig

MADE OF KEYSTONE COPPER STEEL

MADE OF KEYSTONE COPPER STEEL

The Home of the Original Bolted Steel Tank

ADEQUATE DISTRIBUTING FACILITIES

We offer for your consideration a word about our Field Representatives and Distributors, who have in their yards and warehouses adequate stocks of our tanks of various sizes. They are equipped to render efficient service both in delivery and erection, also equipped to give wooden tank service. This field service is BACKED UP by our modernly equipped Plant, with 30,000 feet of floor space and with ample machinery and stocks of steel to meet the field requirements PROMPTLY. We devote our entire time to the exclusive manufacture of our Bolted Copper Steel Tanks.

Domestic Representatives:

NATIONAL SUPPLY CO., Denver, Colo.; Casper, Wyoming; Shelly, Mont., and Kevin, Mont.
PANHANDLE TANK CO., Amarillo, Panhandle, Pampa, and Spearman, Texas, and Artesia, N. M.
PANHANDLE REFG. CO., Wichita Falls and Olney, Texas.
H. B. BULLINGTON, Trent and McCamey, Texas.
C & S TANK CO., Luling, Texas.
PEER BOLTED STEEL TANK CO., Houston, Boling, Myrtle, Liberty, Sour Lake, Bruni, and Noleda, Texas, and West Lake, La.
IRA N. ELLIS, El Dorado and Smackover, Ark.
CHANUTE TANK CO., Chanute, Kansas.
J. FRANK PERDUE, Independence and Madison, Kansas.

Foreign Representatives:

M. R. TAYLOR, El Dorado, Kansas.
MALONEY SALES CORP., W. H. Elliott, Tulsa, Wewoka, Seminole, Okemah, Bristow and Tonkawa, Oklahoma.
NATIONAL SUPPLY CO., Calgary, Canada.
ROSE LLYOD & CO., London.
J. Z. HORTER CO., Havana, Cuba.
NATIONAL SUPPLY CO., Tampico, Mex.
HUGHES & CO., New York.

Forwarding Representatives:

SEVEN SEAS TRANSPORT MERC. CO., New York.
UNITED FRUIT STEAMSHIP CO., New Orleans.
PEER BOLTED STEEL TANK CO., Houston
MALONEY TANK CO., Los Angeles

MALONEY TANK MANUFACTURING COMPANY
TULSA, OKLAHOMA

Howell Aluminum "3 in 1" Vacuum Pressure Valve and Thief Hatch—The BEST and LATEST Deck Equipment—POSITIVE Safety

Sizes 12 to 3000 Barrels

Packed in Steel-Bound Crates for Export

MALONEY

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

Say you saw it in The OIL WEEKLY

Emsco Dual Derrick

Dual Derrick Means Economy to Operators

A "dual" derrick, designed towards the goal of economy to operators, is being introduced to the trade by the Emsco Derrick and Equipment Company, Los Angeles and Houston, the advantages of which may be summed up as follows:

When the hole has been drilled and it is desired to change over to a pumping rig, the top 84 foot section of the 114 foot tower is lowered to the foundation already provided. The means for lowering the derrick consists of four hoists, jin poles and cables, (a set of each being bolted to each leg of the lower 31 foot section of the derrick.)

The 31 foot lower section, the rotary engine house, rotary pump house, reinforcing, corrugated iron, outside section of the base and foundation posts are then stripped out and moved to the next location. By purchasing only the 84 foot pumping section of the derrick another complete drilling rig can then be erected at a large saving to the operator. This procedure can be followed until the entire lease or drilling program has been completed.

In the event that at some future time it is desired to deepen or re-drill the well, the pumping derrick can be converted back to a drilling rig by reinstalling the original equipment and raising the 84 foot section into place on the lower 31 foot section, or, by installing the pipe reinforcing, the 84 foot derrick can be converted for drilling.

The "dual" feature is being met with great favor by those who are confronted with adverse transportation problems, especially in foreign countries where long hauls and poor road conditions must be met with the utmost restriction of tonnage.

Further information may be secured upon request to the company.

Derrick Stove Has Safety Features That Make It Ideal

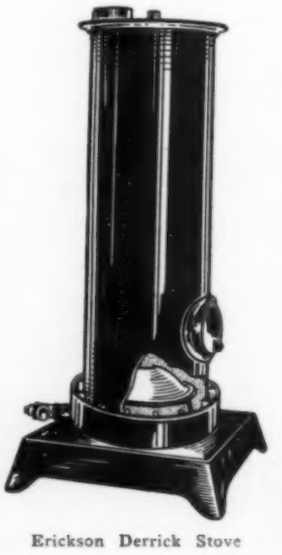
An oil burning heating stove designed to give service and withstand the hard knocks that must be sustained when used on a derrick floor is being manufactured and sold by the Erickson Pattern Works, Wichita Falls, Texas. The fire-prevention features embodied in the construction of the Erickson stove practically eliminate the chances of the oil boiling over and setting fire to the derrick, as provisions are made for the fire to become automatically extinguished by eliminating the draught should the oil boil, or flow too freely.

The stove stands 40 inches in height when assembled, and is mounted an a cast iron base 20 inches square. This base is cast so as to form a receptacle for the burner, or splash pan to rest upon. The interior of the base is round, and the walls have ribs extending out and shaped so as to receive the drum part of the stove in such a manner that a uniform draft is provided on all sides, with the air passing between the interior wall of the base and outside wall of the drum. The drum fits down into the receptacle part of the cast iron base, and stands erect without being bolted or braced. A drain pipe is hooked up to the bottom of the receptacle to carry off surplus oil, and fluid that failed to burn, thereby providing a safety overflow outlet. A tee connection is placed at the point where the drain pipe leads into the receptacle to permit cleaning of the pipe without disconnecting same. In the event this drain pipe becomes clogged and fails to carry off the waste fluid, from the catch basin, the oil can only rise to a certain level in the receptacle before it automatically cuts off the draft, thereby extinguishing the flame.

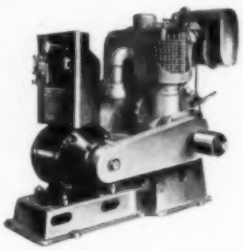
A flat top of cast iron is used on the stove to permit cooking when desired, with openings provided for stove pipe and oil feed. A small door on the front of the stove is used for lighting and cleaning. All parts of the stove are uniform in size, and interchangeable, while in the event of breakages replacements can be made on short notice.

Crude, fuel oil, kerosene and auto crank case drainage oil can be used for fuel in this type of stove, which is adapted for use in field offices, warehouses, shops and pump stations.

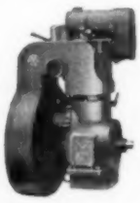
Additional information will be supplied by the Erickson Pattern Works, 508 Ohio Avenue, Wichita Falls, Texas.



Erickson Derrick Stove



4 Sizes
32 Volts 2 K. W.
110 Volts 2, 2½ & 3½ K.W.



You can detach the 8 H. P. "New-Way" Engine for other power needs.

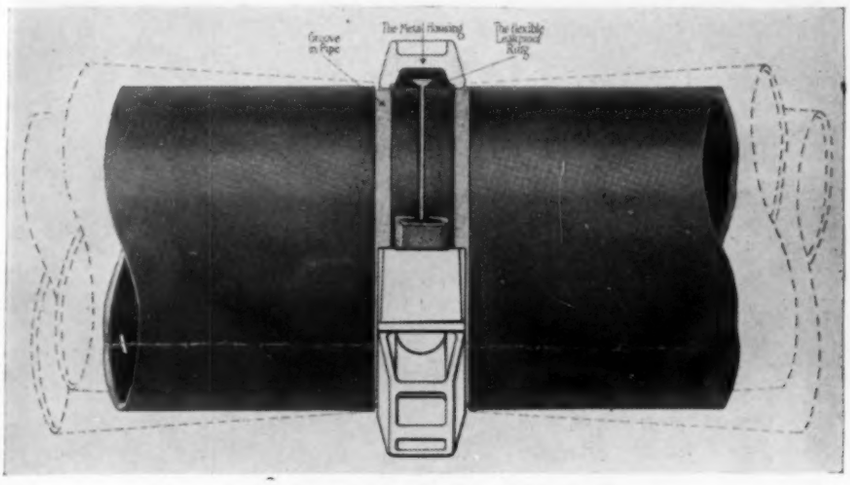
Marco Super - Powered Plant for Lighting Rigs

To meet the increasing demand for electrical units of two, two and one-half, and three and one-half K. W. capacities for use in oil drilling operations, the Marco Light and Power Corporation, Lansing, Michigan, has just placed on the market the Super-Powered Marco Plants of these capacities.

The roller-bearing, eight horse-power "New-Way" air-cooled engine has ample capacity to take care of any overload put upon the generator.

Special attention is directed to the rugged strength of this compact, light weight power and light unit, which makes it easily portable from place to place. The drive is by silent chain running in oil in a dustproof case, which in connection with the weather-proof generator and air-cooled engine, is said to make an ideal unit for power and light purposes wherever electricity is needed.

Further information may be obtained from the company on request.



Victaulic Pipe Joint

Flexible Pipe Joint Recommended for Pipe Lines

The patent Victaulic Joint manufactured by the Victaulic Company of America, 26 Broadway, New York, is recommended to oil companies as an inexpensive, easily fitted, and flexible pipe joint for use on pipe lines.

The Joint consists of two half housings, two bolts and nuts and leak-proof ring. The half housings serve to locate the leak-proof ring over the ends of the pipes and also joint the pipes together, allowing such clearances as are necessary to obtain the standard flexibility and expansion, and protecting the leak-proof ring from damage on all sides.

The leak-proof ring is stretched over the pipe ends and the two half housings bolted together over it, the whole operation being easily performed in less than two minutes on any size up to twelve inches diameter.

Standard pipes are grooved at the ends to the same diameter as at the bottom of a screw thread. The key portion of the housing engages in this groove and supports the pipe under strain.

The housings are made of forged steel or malleable cast iron according to the pressure involved; they are said to be capable of withstanding much higher pressures than the nominal working pressures before fracture, especially if anchorages are provided.

Each joint allows a certain amount of flexibility and also for the expansion of its own particular length of pipe, ensuring a strain-free pipe line due to expansion, movement of the ground or subsidence.

The company will send literature giving complete details to anyone interested.

Timken Bearing

Timken Roller Bearings Lately Improved

Improvements in Timken roller bearings, made during the past year by the Timken Roller Bearing Company, include a number of refinements that add to the efficiency of the well known bearing.

The cone or inner race of the bearing has been designed so that the shoulder or rib is undercut. Likewise the large end of the roll is ground to square exactly with the centerline of the roll itself. When in motion the roll then makes contact with the rib or shoulder of the cone in two widely separated areas. These improvements increase the load capacity of the Timken bearing. Likewise by reason of the two area contact the roller cannot screw or become misaligned, insuring true rolling motion at all times. A full line contact is maintained constantly between the roller and cup and the roller and the cone, and each roller is compelled to perform its full measure of load carrying, friction-reducing work. The cage then is left its simplest function, that of properly spacing and retaining the rollers about the cone. This improvement of a tapered roller bearing is one of the greatest engineering developments of bearing design and construction.

Improvements in the cage or roll retainer have also been perfected which advance the precision of this unit. The openings or roll pockets of the cage are punched out by a single stroke of a multiple perforating press. A similar machine presses out the sides of the pocket to conform precisely to the taper and contour of the roll itself. The process of multiple perforation and "winging" insures an accuracy in cage manufacture typical of Timken standards.

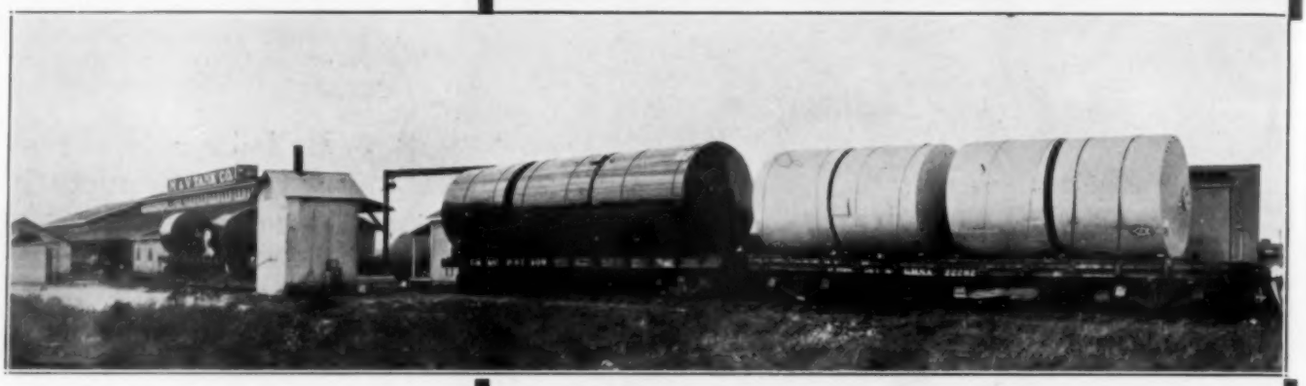
B. & B. Tubing Joint Has Same Inside Diameter As Tubing

Hugh A. Bardeen, an old experienced driller and operator of Los Angeles, has recently invented and placed on the market through the B. & B. Pipe Shops Corporation a tubing joint, which he claims has the same inside diameter as the tubing itself as well as equal outside measurements, and is manufactured from high carbon steel, made to fit any size tubing.

According to Mr. Bardeen, in setting up a new string of tubing using B. & B. Tubing Joints the tubing is never unscrewed at tubing joints, and as these joints will stand constant screwing and unscrewing the tubing will always remain as strong as new tubing.

Accompanying illustrations show a section of tubing as it is run in the well with this new tubing joint. The pin end is made from high carbon steel. The box end is the regular tubing coupling being faced back to assure proper fit and draw and all threads are same as tubing. When the joint is set up the shoulder not only acts as a seat to insure against leakage, but also acts as a stop, thus eliminating any danger of "swaging."

B. and B. Tubing Joint



EMVEE SIGHT FLOW SEPARATOR

"Sorry, but we can't open up the tank without its shutting down the gas engine."

The above was the unusual conversation between visitor and owner before the advent of the

NEW EMVEE SIGHT FEED SEPARATOR

You can see them produce.

No cocks or valves to open or close.

The oil, gas and water are handled automatically.

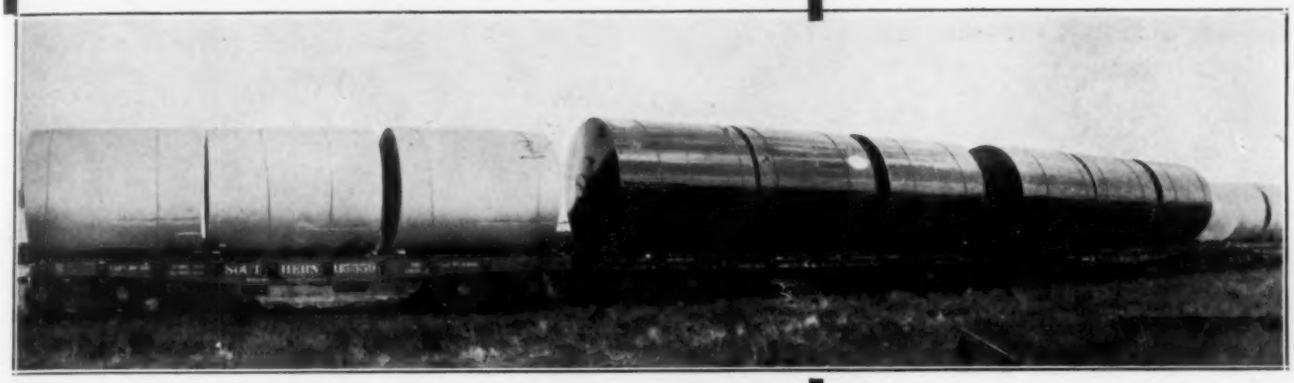
Something entirely new and a real achievement.

Write for descriptive literature

Back of every EMVEE Welded Tank and EMVEE Sight Flow Separator stands the guarantee and the reputation of the largest manufacturer of seamless welded tanks in the Southwest.

M & V TANK

WICHITA FALLS TEXAS



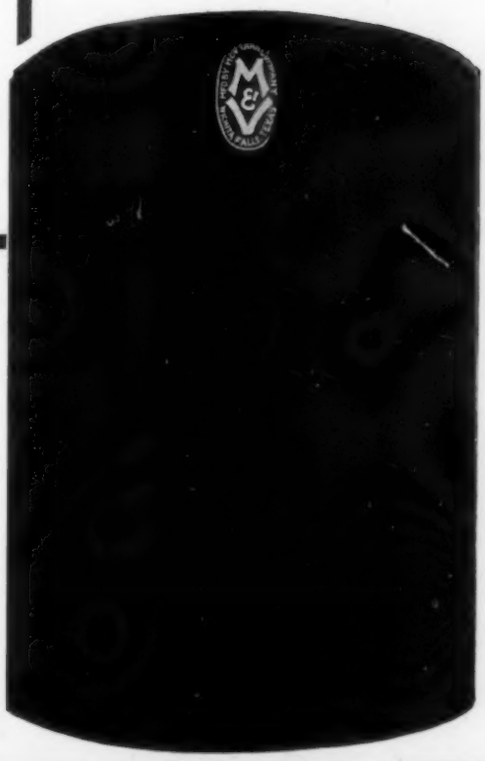
EMVEE SEAMLESS WELDED TANKS

When the lighter vapors of high gravity crude will seep through the PORES of tin, what chance has a loosely constructed tank to hold them?

"Emvee" welded tanks will hold 'em —they're pressure tested and guaranteed.

"Emvee" welded tanks save all the gas and all the oil and deliver your crude to the pipe line at casinghead gravity.

Write for literature



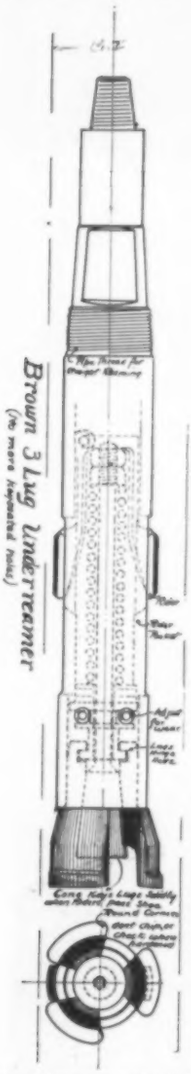
"The customer must be satisfied" is no idle phrase or boast—it is a real and definite policy of the M & V Tank Company.

COMPANY

BRANCHES AT
Olney, Vernon, Nocona, Cross Plains, Amarillo, Panhandle

Unusual Service Features In Brown Underreamer

Service features of unusual value are claimed for the Brown Underreamer, manufactured by the Brown Tool Company, Inc., Breckenridge, Texas.



The underreamer has three cutters. The combined circumference covered ranges from 210 degrees to 270 degrees in the different sizes. These cutters hang in the lower end of the body on an assembly ring that is stationary. They are moved into their cutting position after the tool clears the shoe, by a hardened cone on the nickel steel mandrel that carries a coiled spring. The cone slides upward into a corresponding bore in the cutters and keys the cutters solidly into the bottom of the reamer body, thus holding the cutters rigidly. The bottom of the body is a cylinder with a plain end.

The lower or cutting ends of the cutters are circular inside and out. Cutters are of the "round nose chisel" type so that they cut their "bite" out at each blow.

The underreamer can be used to straighten crooked holes as it is provided with a thread at the top of the body so that a joint of pipe can be screwed on to guide the tools. A stem is screwed directly onto the underreamer, with fishing jars and stem above.

More detailed information will be provided by the Brown Tool Company, Inc., Breckenridge, Texas, on request.

Grease Tubes Simplify Motor Lubrication

An improvement that simplifies motor lubrication has been announced by Fairbanks-Morse & Company, Chicago, Ill.

This new method is in furnishing the proper greases in collapsible tubes, each containing just enough grease for a motor's annual requirements. After flushing out the old grease with kerosene as directed in printed instructions

Fairbanks-Morse Grease Gun

supplied with the tube, the new grease is squeezed from the tube directly into the bearing. Directions show just how much to put into each bearing for the best results. Four sizes of tubes are available for corresponding sizes of bearings.

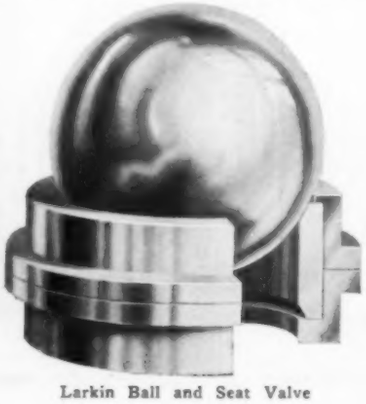
In the opinion of the manufacturers of these tubes, this method of greasing has a number of advantages; chief among which is cleanliness. No dirt or other deleterious matter is introduced into the bearings. The cap of the housing is not removed, only the plug. No grease is wasted or smeared outside of the housing and no wiping is needed.

Users of this method claim that the slight cost of the tubes is usually offset by the elimination of waste in the use of grease.

More information will be furnished by the company, upon application.

Larkin Ball and Seat Valve Has Renewable Insert

The Larkin ball and seat valve, a new piece of producing equipment which is said to embody an unusually durable split type retainer and a renewable insert as features, has been put on the market by the Specialty Sales Company, 1101 Spring Arcade Building, Los Angeles, California.



Larkin Ball and Seat Valve

Metal used in making retainers of the combination is of a ductile nature, brass, allowing conformity to irregularities of fittings in which they are used.

Abrasive action of sand on the valve has been reduced to a minimum by steps employed in manufacturing the Jimmie Larkin valve, according to the manufacturers. In the first place, the inserts are made of rust resisting alloy steel guaranteed not to become pitted or corroded. Because the design of the insert largely relieves the strain on the seat, the manufacturers claim they are able to harden them almost to a degree of brittleness.

More information can be obtained by communicating with the company, direct.

Safety Tubing Block Is Popular in Fields

A new tubing block known throughout the Mid-Continent as the McKissick Eccentric Safety Tubing Block, is being manufactured by the Peerless Supply Company, Tulsa, Oklahoma, and has also been standardized on by a number of leading Mid-Continent operators. The block is being sold through all supply companies.

This block is built with the hole through the frame slightly off center, allowing the tubing-line to pass underneath the safety guards when the block is open. This makes it possible to string the block without taking off any extra parts.

The 26-inch size weighs 290 pounds, measures 43 inches overall, and is 26 inches from the center of the top pin to the center of the lower pin. The center pin is two and three-fourths inches and is bushed with phosphorus bronze bushing and has alemite lubricating. The block is designed to part a one-inch wire line if properly lubricated.

The block is said to be fool-proof and is safe, as it is impossible to get the fingers caught in between the line and sheave. The fact that the block cannot turn over is also an advantage.

Other information will be supplied by the company, on request.

RESOURCES EXCEED
$45,000,000

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FRIENDS HERE

"Credit Sentry of the Oil Fields"

THE OFFICERS AND DIRECTORS OF

THE EXCHANGE NATIONAL BANK OF TULSA

WELCOME THE MEMBERS OF

THE AMERICAN PETROLEUM INSTITUTE

TO TULSA AND EXTEND A CORDIAL INVITATION TO VISIT

"THE OIL BANK OF AMERICA"

DURING THE SEVENTH ANNUAL CONVENTION DEC. 7-8-9

The history of the Mid-Continent oil field is synonymous with the history of The Exchange National Bank and among its officers and directors are found many of the most successful men in the industry. Intimate knowledge of business and financial conditions combined with a specialized department on oil credits enables this bank to render customers invaluable service.

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THE LARGEST BANK IN OKLAHOMA AND ONE OF THE LARGEST IN THE SOUTHWEST

Say you saw it in The OIL WEEKLY

One half of bit pin, ordinary bit steel, broken in "V Block." Note coarse grain indicating low breaking strain.

Other half of same Bit Pin, ISCO treated, broken in "V Block." More than five times the tensile strength of ordinary bit steel.

Why ISCO bits have *Guaranteed* pins

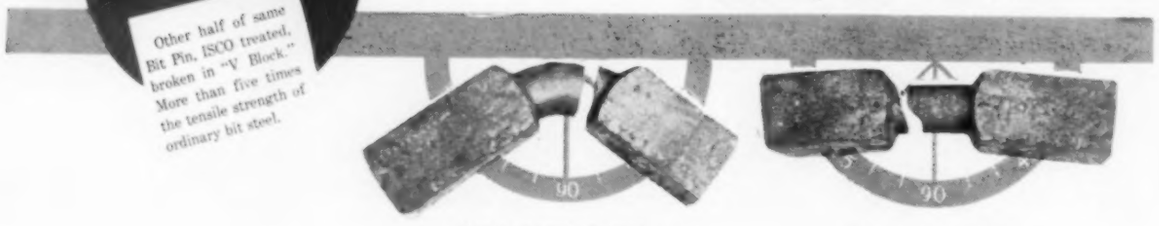
The cross sections of steel tests shown at the left and bottom tell the story . . . . the difference between ordinary bits and ISCO treated bits.

The cross sections are from an ordinary bit pin, before and after ISCO treatment. Note the coarse, granular fabric of the untreated steel; then compare it with the fine, even grained ISCO treated steel.

Is there any wonder ISCO Bits are guaranteed?

The two bottom illustrations show the comparative breaking strains of a bar drawn from ordinary bit steel, before and after ISCO treatment. On the right, the untreated bar shows only a slight bend before breaking. At the left, the ISCO treated section shows the immensely greater tensile strength of ISCO treated steel.

All of which proves that ISCO Bits are safe Bits . . . Bits that you can use with assurance and profit. They are now stocked by all our branches.



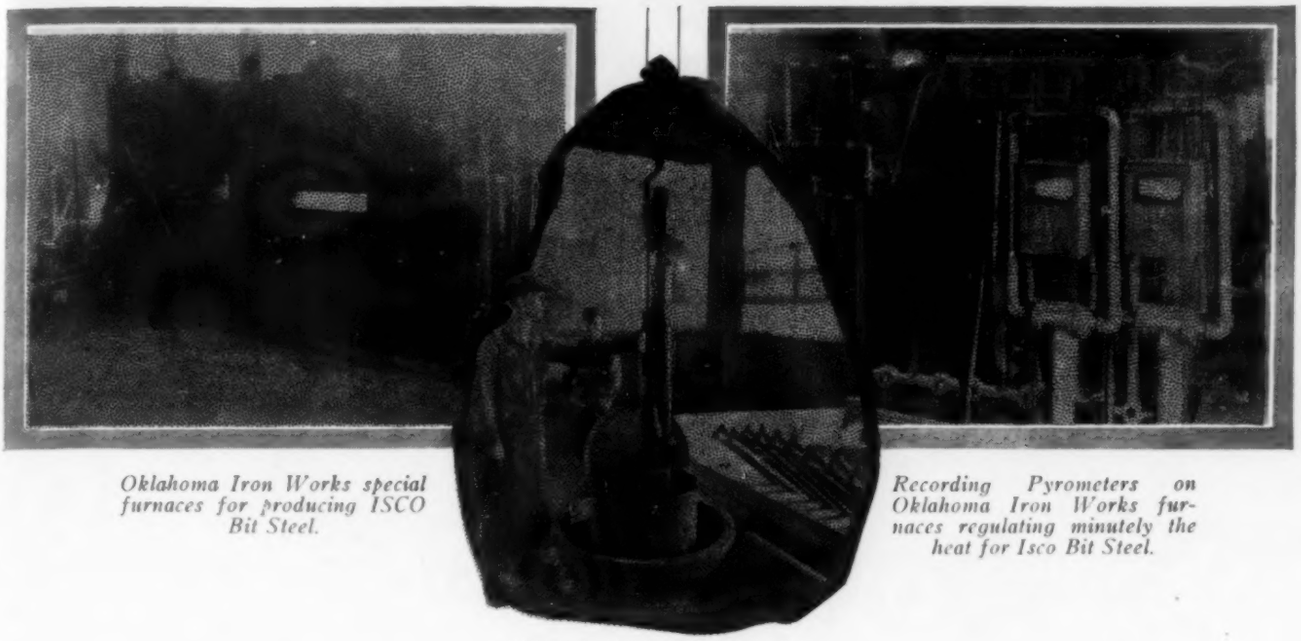
Other half of same bar. ISCO treated, showing high tensile strength of treated steel in ISCO Bits.

One half bar of bit steel, untreated. Shows low tensile strength compared with treated steel.

INTERNATIONAL SUPPLY CO.
TULSA OKLA.

INTERNATIONAL ISCO SUPPLY COMPANY

Say you saw it in The OIL WEEKLY



Oklahoma Iron Works special furnaces for producing ISCO Bit Steel.

Recording Pyrometers on Oklahoma Iron Works furnaces regulating minutely the heat for Isco Bit Steel.

ISCO Treating the Bit with the Guaranteed Pin.

ISCO STEEL TREATMENT

The special Isco Steel Treatment marks another step in the advancement of tool manufacturing.

In the great plant of the Oklahoma Iron Works are furnaces where heats are regulated by recording pyrometers to the extent that each product of the furnace carries a very high tensile strength and is wear resisting to an astonishing extent.

And this steel, used in ISCO products, is responsible for the high regard in which ISCO products are held by the Oil fraternity.

A FEW PRODUCTS OF THE OKLAHOMA IRON WORKS

ISCO BITS.
O. K. Rig Irons.
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O. K. Casing Shoes.
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SOME OF THE LINES HANDLED BY THE INTERNATIONAL SUPPLY CO.

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Bells Non-Kink Bull Wheel Spooling Flanges
Jefferson Unions
O. I. C. Valves.
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A full line of oil country merchandise.

INTERNATIONAL SUPPLY CO.
TULSA ISCO OKLA.

Supply Stores in All Principal Fields

Say you saw it in The OIL WEEKLY

Allen Motion Builder

Allen Motion Builder for Cable Tool Rigs

A device designed to produce a "drilling motion" when a gas, oil or other internal combustion engine is used for power in handling a string of cable tools is available in the Allen Drilling Motion Builder manufactured by the Oklahoma Iron Works, Tulsa, Oklahoma.

The appliance was invented by W. A. Allen, Sapulpa, Oklahoma, and as its name implies, is a motion builder. It alters the impulse delivered by the crank pin to the lower end of the pitman when a gas or oil engine is being used so as to secure the characteristic steam engine drilling motion.

The Allen Drilling Motion Builder may be installed on any standard rig where cable tools are being used with a gas or oil engine as a source of power.

The installation is claimed to effect a material saving in both fuel and water, thereby reducing drilling costs per foot of hole.

The beam is constructed of a cast steel link in which the cross head moves and two pieces of 12-inch channel iron. The cross head is cast steel with brass shoes to minimize friction and aid smooth running.

The link is long enough to allow the third hole of a 6-inch iron to be used. The hook at the forward end of the beam is connected to the stirrup of the pitman for drilling. The other hook is provided so that two strings of tools may be swung in case of a fishing job.

While bailing, the beam is usually left on the crank pin. During a casing job the beam is easily removed from the pin by one man, by virtue of the counterbalance being bolted inside the channel irons.

The stirrup on the lower end of the pitman is fitted with a key and shoe which hold the stirrup in place. The key is tightened or loosened by a few turns of a handwheel, making it possible to hitch or unhitch very quickly.

The post, a section of 8-inch pipe with a cast iron bearing head, is bolted to the main sill with four bolts running through the base.

The shaft or trunnion of the beam is self aligning and a precise placement of the post is not necessary, which makes installation quite easy.

The simplicity of the device, its ease of installation and manipulaiton are at once its virtues. The only attention required during operation is the occasional filling of oil cups.

More information can be obtained by communicating direct.

Two-Stage Bessemer Unit For Limited Gas Supply

Details of a new Bessemer compressor have been completed after many months of effort by Bessemer engineers, and the compressor is now ready for the trade. The new outfit was designed to meet the requirements of oil men who require a two-stage unit but who do not have sufficient gas to handle to necessitate the larger H. P. units.

The compressor is a two stage, single cylinder, four-cycle one, manufactured in two sizes, 80 and 90 horsepower.

The 80 horsepower unit has a 17 x 20 inch power cylinder while the 100 horsepower unit has an 18 x 24 inch cylinder. In construction and principle this engine is similar to other Bessemer four-cycle machines, built with a simplified valve assembly, adjustable crosshead, large adjustable and removable bearings, with hand holes and outside bolting giving easy accessibility to all parts.

The main frame is built in two pieces which are bolted securely together. The crankshaft is of the side crank type, and is carried by a four part adjustable main bearing and an outboard bearing. A single flywheel is used on this unit.

The power cylinder consists of a liner pressed into the main frame, and is held in place by the cylinder head. The water jacket spaces are ample to insure cool running, and the inlet and exhaust valves are mounted in cages at the top and bottom of the power cylinder head respectively. All valve gears, cams, etc., are completely enclosed and operate in a bath of oil.

Lubrication is combination gravity and force feed, with the timed force feed lubricator supplying lubricant to both the power and compressor cylinders.

The engine is entirely enclosed to prevent dust and dirt gaining access to the working parts.

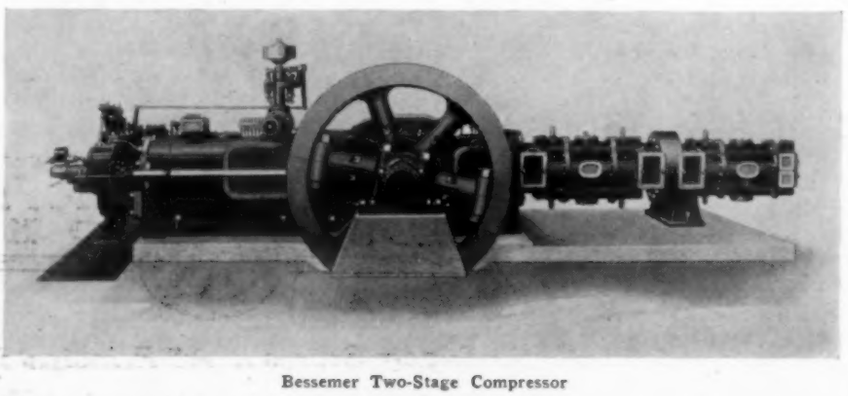
The compressor cylinders on these four-cycle compressors are of the new Bessemer valve in head type. These cylinders, low stage and high stage, are arranged in tandem with the low pressure cylinder next to the main frame of the engine.

A single piston rod extends from the compressor crosshead through both compressor cylinders, carrying both high and low pressure pistons.

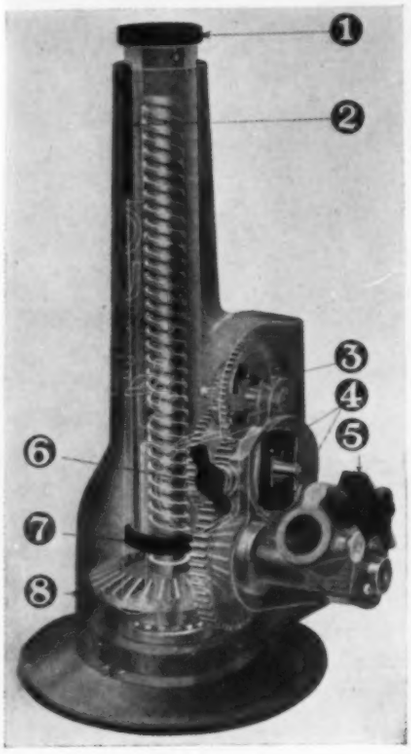
The two heads between the high and low stage cylinders are held together by long bolts extending from a flange on one head through sleeves to a similar flange on the other head. When it is desired to get across to the low pressure piston the bolts and sleeves holding the two flanges are removed and the low pressure head may be slid back or telescoped over the high pressure head. A sheet metal band covers these flanges and sleeves when the machine is in service.

The valves used are the new Bessemer plate valve type and are placed in the cylinder heads. This arrangement results in cylinders of high volumetric efficiency.

The whole unit is compact and symmetrical. It is designed and built for pressures up to 500 pounds.



Bessemer Two-Stage Compressor



New Duff Jack

Lowering Speed Is Controlled in New Duff Jack

Although the manufacturers claim that the new Duff self-lowering governor control jack embodies many features which have never before been available in jacks of this type, control of the lowering speed is outstanding in this jack.

The principle of governor control assures absolute control of lowering speed eliminating all possibility of accidents through sudden or uneven dropping of load. The jack may be slowed down gradually or stopped instantly at any point without shock or any strain on the mechanism. If two jacks are used, the governor makes it impossible for one jack to lower more rapidly than the other.

Other superior points of the Duff jack include: a drop-forged steel top. Turning of the standard is prevented by an over-sized key. This keeps the jack from screwing out from under the load.

A triple-pawl holding clutch with three drop-forged, heat-treated steel pawls holds all the raise with each stroke.

Simplicity in operation assured by the single pawl on a lever socket, which is the three position safety type. In the first position the pawl will raise the load in the usual manner. The second position is neutral. The third position is used for running the standard down without the load.

A positive lock which also acts as a brake when lowering the jack gradually holds up the load.

A positive step at the base of the standard prevents over-extending of the jack beyond the safe limit of the raise.

A one-piece shell holds all working parts and bearings in an integral unit, and assures perfect alignment of all parts at all times.

Further information is available from the Duff Manufacturing Company, Preble Avenue, N. S., Pittsburgh, Pennsylvania.

Orifice Meter Has Features that Make for Time-Saving

Where orifice meters are used it is necessary at times to change the orifice disc. With a view of saving the cost of the by-pass and reducing the labor of making the change, the G. M. Davis Regulator Company, Chicago, Illinois, has designed and is now marketing the Davis Orifice Change Valve.

Accompanying illustrations are of two 20-inch valves of the new type recently delivered to the Comar Oil Company, Braman, Oklahoma.

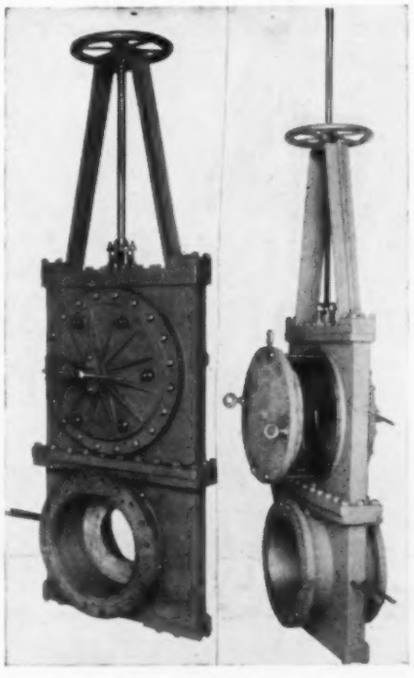
The method of changing the orifice disc is by moving it from the valve body to the chamber above where it may be reached when the cover is removed.

The disc rests in a carrier plate that is attached to a screw spindle and the valve is operated the same as a gate valve. The flow is never interrupted. Leakage is prevented while a change is being made by means of a floating cover which clamps the carrier plate against the seal.

When the orifice disc is in its normal position in the valve body it is tightly clamped by screws against a seat on the up stream side to prevent leakage.

Inlet and outlet valve openings are machined to internal pipe diameter. Meter tappings are located according to standard requirements on each side of the carrier plate.

More information will be supplied by the company on request.



Davis Orifice Change Valve

Mud Cannon Plunger Attachment

Plunger Attachment Has Economy Features

Mud Cannon plunger attachments for all standard slush pumps are called to the attention of the oil industry. This attachment has been perfected by Monroe W. Carroll, Beaumont, Texas, and is being manufactured by the Sun Shipbuilding and Dry Dock Company, Chester, Pennsylvania.

Advantages claimed for this plunger attachment are: prolonged life of the rubber sleeve packing; simple packing adjustment while the pump is in motion.

In a severe test given the attachment, one set of packing lasted 30 days, and in one instance at Orange, Texas, one packing ran 62 days, while drilling below 4000 feet.

Case hardened and ground plungers reduce friction, and consequently require less power to do the same amount of drilling.

More information concerning the attachment can be secured from Mr. Carroll, or from the company manufacturing it.

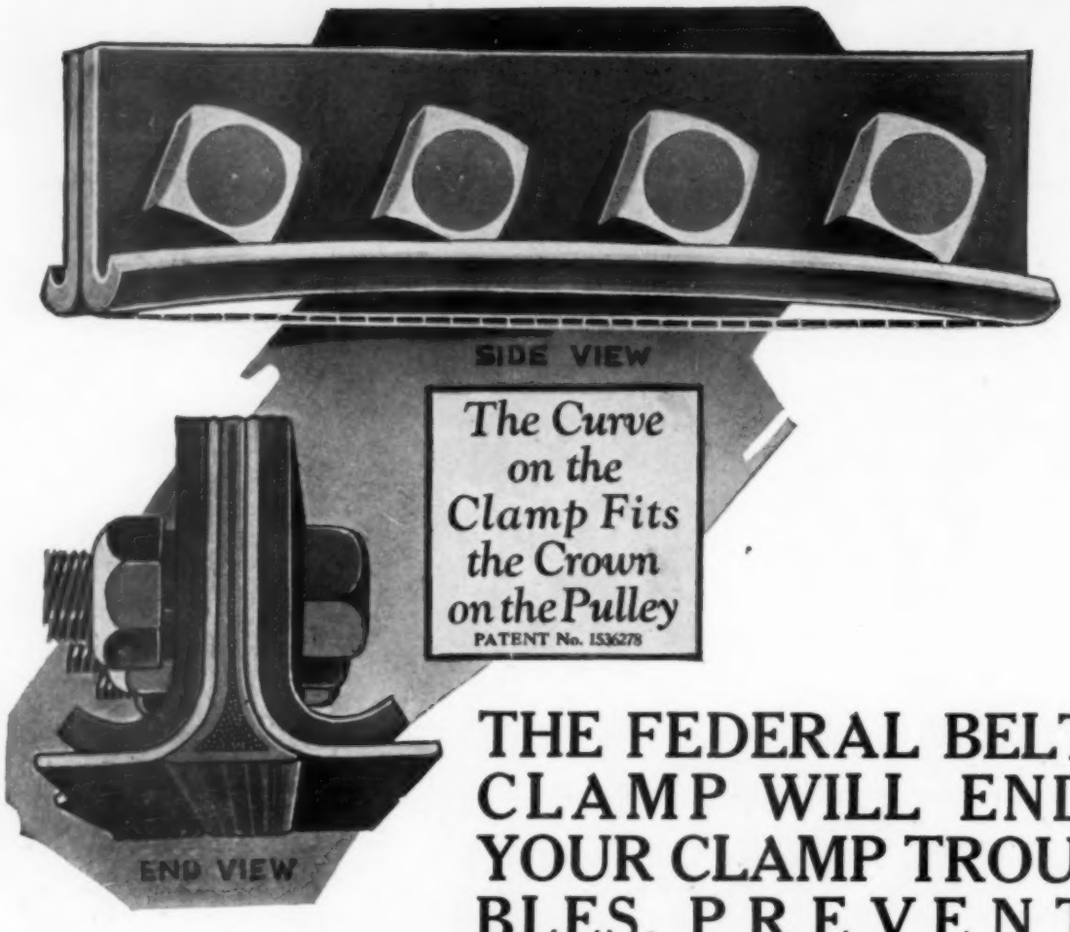
Green Surface Weldite Flows Steadily

A welding rod said to have superior advantages has been developed by the Chicago Steel and Wire Company, 103rd Street and Torrence Avenue, Chicago.

This rod is called Green Surfaced Weldite, and was developed primarily to relieve the fatigue on the welder. It is said that because this rod flows so steadily and because the arc is so stable, the welder can keep consistently on the job of depositing metal, and consequently accomplish a maximum amount of work in a minimum of time.

Further information on this rod can be secured from the company on application.

FEDERAL



THE FEDERAL BELT CLAMP WILL END YOUR CLAMP TROUBLES, PREVENT BOOTLEGGING AND ADD TO THE LIFE OF YOUR BELT.

THE FEDERAL

FORT WORTH, TEXAS

Say you saw it in The OIL WEEKLY

BELT CLAMP

Six Reasons Why You Should Use

Federal Belt Clamps

1. The old style belt clamp as shown in lower right hand corner of illustration, with straight bars and sharp edges, cuts the belt on the pulley side every time it passes over the pulley. These cuts permit air to enter the plys of the belt and each additional blow as the belt passes over the pulley forces air farther into the plys thus forming air pockets and causing bootlegging.
2. Every FEDERAL BELT CLAMP is made with a curve on the face to correspond with the crown on the belt pulley, thereby preventing side slip on pulley and keeping the belts from sliding on shoes of clutch.
3. The "liner" inserted between clamps as shown in illustration holds the belt firmly against the curve on the outside clamp and forms an uninterrupted curved surface fitting smoothly against pulley.
4. FEDERAL BELT CLAMPS are made of pressed steel, drilled and fitted with 5/8-inch HEAT TREATED STEEL BOLTS and lock washers.
5. By using FEDERAL BELT CLAMPS you eliminate all your clamp troubles, prevent bootlegging in your belts, increase their efficiency and prolong their usefulness.
6. There are imitations and infringements on the market—as a protection to our customers we warn you that unless it is a FEDERAL BELT CLAMP, it is an inferior product.

SUPPLY COMPANY

MEXIA, TEXAS

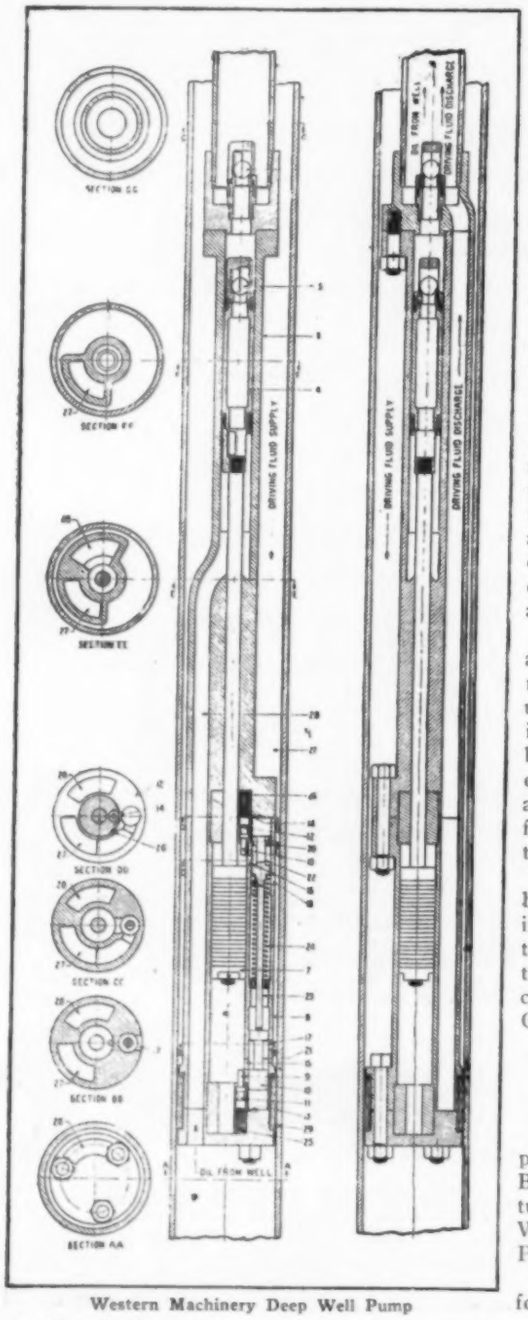
Pump for Deep Wells Driven by Hydraulic Motor

With the present tendency leaning heavily toward extraordinarily deep wells, and the steadily increasing cost of lifting the oil to the surface attributed in a large measure to this greater depth of wells, engineers are turning their attention more and more to deep well pumping. Numerous inventions said to reduce pumping costs have been put on the market, many of which are finding wide application. Among the recent deep well pumps is one invented by John R. Suter, chief engineer for the Western Machinery Company, Los Angeles, California.

The pump consists of two units—the upper half which is the oil pump, and the lower half which is the driving motor. Motive power is transmitted to the pump by hydraulic means.

The motor of the pump is very similar to a single cylinder steam pump, except that this oil pump can be operated by any kind of fluid, either gas, oil, or a mixture of both. The pump proper is a simple assembly of the ball and seat type. The plunger of the motor is connected with the plunger of the pump unit by means of a piston rod which extends from one chamber to the other.

In operation, the pump is screwed to the tubing string and submerged in the oil. At the predetermined depth the pump unit is packed on the lower end. The driving fluid is supplied to the annular space between the well casing and the tubing respectively, the pump unit, under pressure, by any suitable method. The liquid passes downward and enters the motor cylinder through either of the two parts provided for that purpose.



Western Machinery Deep Well Pump

Referring to the accompanying diagram, the water will pass through port 37 into the motor piston cylinder below piston 48, pressing upon the lower side of the piston, thus forcing the plunger up and down in the same manner as the steam plunger operates on a steam pump.

At each stroke of the motor piston, the discharge fluid from the motor is discharged into the discharge passage 25, and is forced upward into the well tubing above the oil pump. Oil from the well rises through a passage on the side of the motor, entering the pump barrel and passing the suction and discharge valves, mixing with the discharge fluid from the motor and being discharged with it.

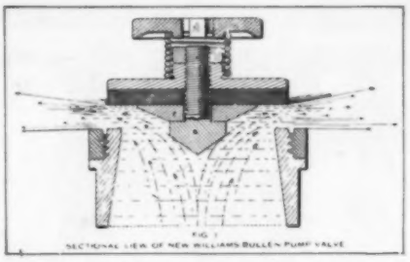
It will be noted that there is a hydrostatic balance upon the motor piston, due to the column of liquid in the pump tubing and in the casing. This balance is not exact, but it is evident that very little over-balance pressure has to be supplied from above in the driving fluid to keep the motor in operation.

The inventor makes a number of important claims for his invention, and further information with literature can be obtained from the Western Machinery Company, Los Angeles, California.

Williams-Bullen Valve Has No Web Pieces

Among late refinements in pump valves is the Williams-Bullen valve being manufactured and distributed by The Williams Gauge Company, Pittsburgh, Pa.

"Stream line principles" are followed as closely as possible



Williams-Bullen Valve

in the construction of this valve; the interior is as smooth as practicable; abrupt turns have been reduced to the minimum, and an attempt has been made to cut down fluid friction wherever possible.

The valve body is made of government bronze, and a bronze stud is used.

No web pieces are used in the valve.

There are only four parts to the valve and it is built so as to be exceedingly strong and sturdy.

Additional information may be had upon application to the company.

Simplex Super - Swab Cuts Down Swabbing Costs

The Simplex Super-Swab being marketed by the Simplex Equipment Company, 629 South Spring Street, Los Angeles, California, is said to offer a number of advantages in swab construction. Among the chief features are mentioned: elimination of strains on the wire line, a reduction in swabbing time and a substantial saving both in the equipment outlay and the cost of operation.

There is little danger of a fishing job with this swab because it is constructed with a solid one-piece sub and stem with no threaded joints to unscrew.

By adjusting the regulator, only the amount of fluid desired will be lifted.

Every part of the swab subjected to hard wear is reversible.

The swab can be run to the bottom of the casing and performs the function of agitating and cleaning, as well as swabbing. It is an efficient agitator and screen or perforation cleaner.

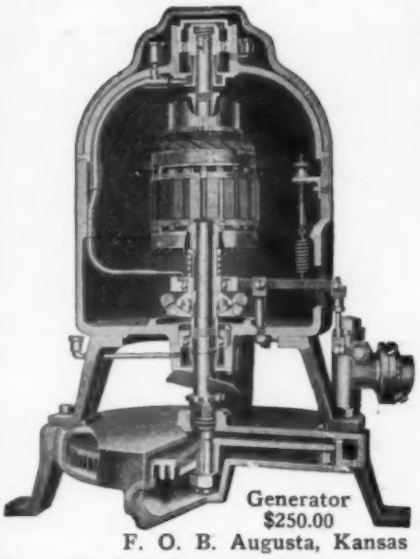
A special patented rubber is used. This rubber is impregnated with graphite to insure against freezing or cooking to the casing wall. This rubber is moulded under high pressure and is reinforced by incorporating a firm, fibrous core.

Because of adjustable features, two Simplex Super-Swab sizes can be used for all sizes of casing. The only adjustment necessary to change the size of the swab is to install cups and rubbers.

More complete information will be mailed by the company, on request.

For Economy, Safety and Convenience Use

Frost Vertical Generator
Ball Bearing Swivel Wrench
Kiester Turbo-Grinder
Hollow-Bit Cleanout Tool



Generator
$250.00
F. O. B. Augusta, Kansas

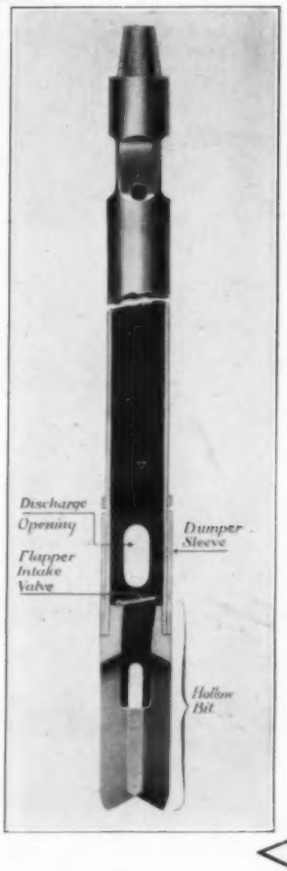
Frost Vertical Generator floats on a cushion of steam which eliminates bearing trouble. Consequently you will have very little Electrical Expense.

Wrench
$90.00
F. O. B. Wichita, Kansas

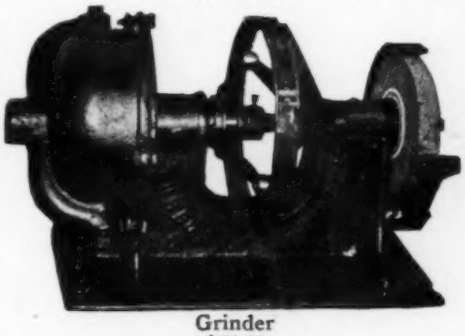
Ball Swivel Wrench. Is a One Man Wrench for all weight bits. The easiest rotating wrench. Has a safety latch to keep your tools in. Takes four squares 6", 5", 4" and 3¼". The handle has two holes for balancing light and heavy tools and is designed to not fly out of reach.

Star Bit
Used in cleaning Caves, Bridged holes, Hard Sand and After Shots.

Prong Bit
Used in cleaning Mud and Paraffin from the Walls.



STEARNS-ROGER "Hollow Bit" Cleanout Tool. This tool absolutely cleans out your well without the use of a bailer which saves considerable time and eliminates cost of bailer and sand line.



Grinder
$55.00
F. O. B. Augusta, Kansas

Kiester Turbo-Grinder driven by steam or air has a governor that drives the grinder wheel at a safe speed. Its speed grinds your tools and does not burn them.

BEK SPECO

For Sale by Your Supply Store

BECKER SPECIALTY COMPANY
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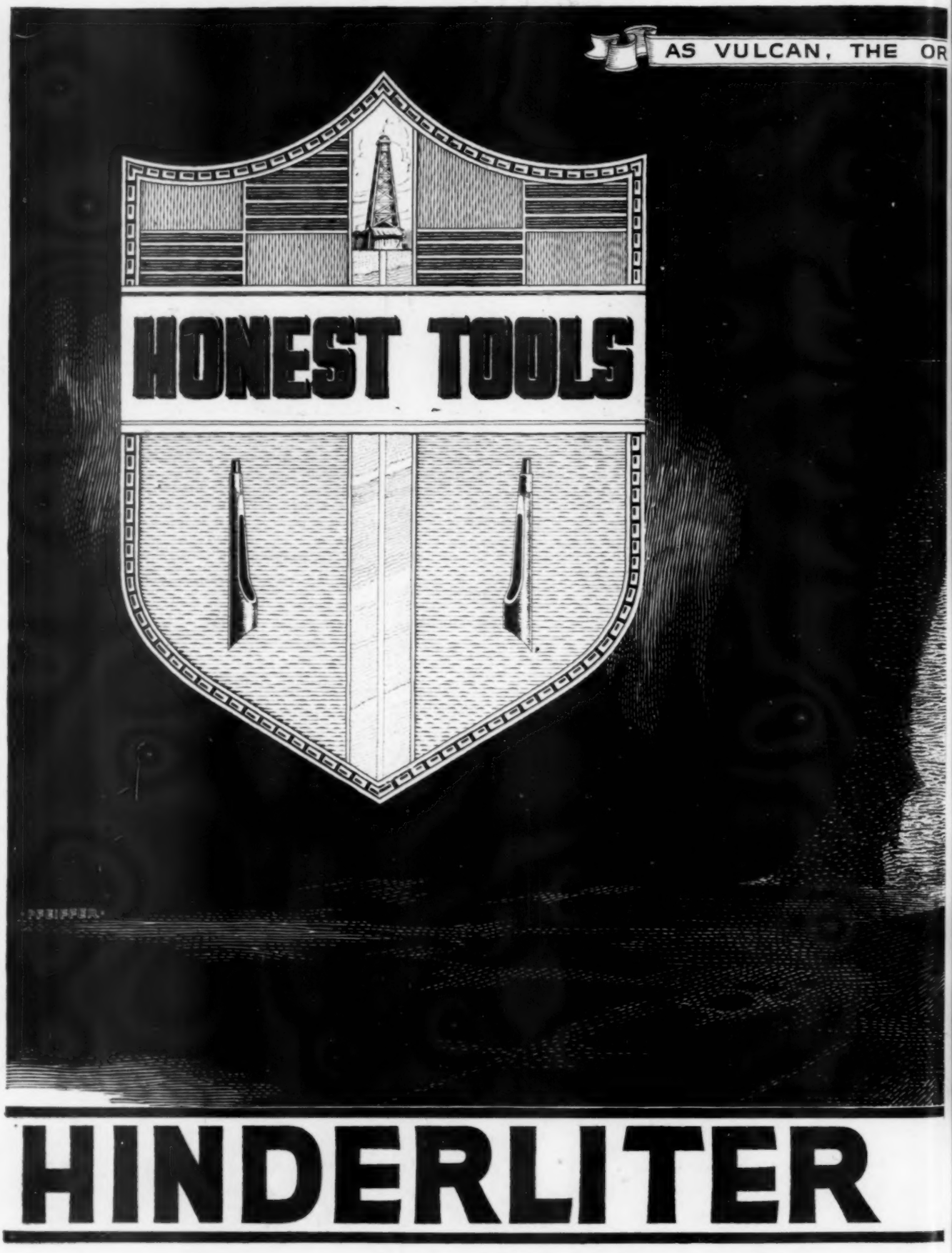
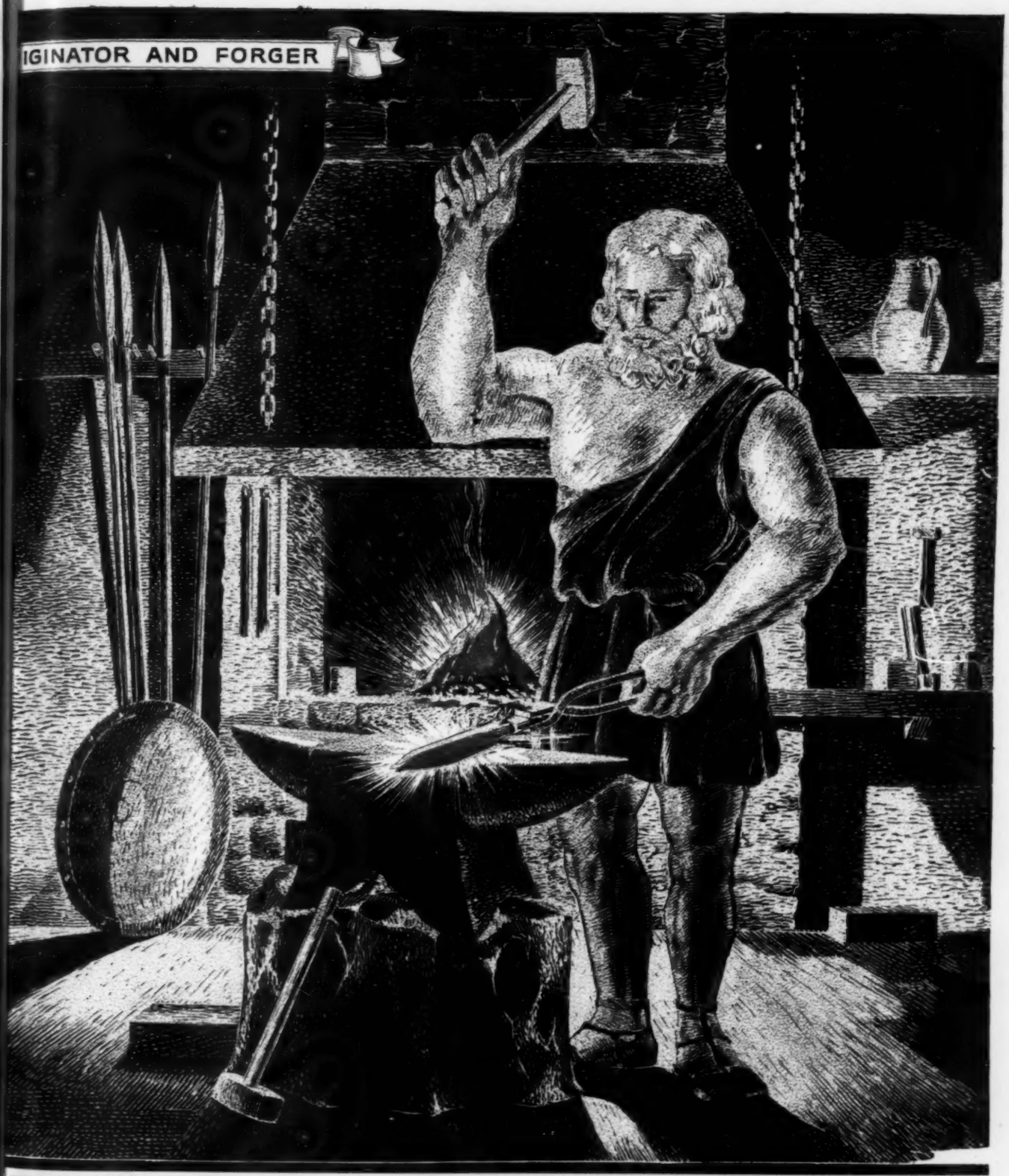
EXCLUSIVE DISTRIBUTORS OF ABOVE FOR THE WORLD


AS VULCAN, THE OR
HONEST TOOLS
HINDERLITER



TOOL COMPANY

Controlled Motion Makes This Jack Superior, Claim

Controlled motion is said to be obtained in a new pumping jack manufactured and marketed by H. G. Goble, P. O. Box 88, Tulsa, Oklahoma. This control causes the jack to speed up on as much of the stroke as desired, and then start slowing up just before the polish rod reaches its lowest point by several inches. This slowing up continues gradually until the polish rod has actually stopped, just where it reaches the lowest point and is ready to reverse on the upward stroke. Then the beginning of the upward stroke starts to lift the load slowly and increases in speed until one-third the way up it reaches its maximum speed.

Seven features of the jack are, under pull shackle line; long stroke; vertical lift; end adjustment; side adjustment; multiplier, and counter-balance.

The under pull shackle line pulls away from the well and can be laid right up to the well. The line does not straddle the tubing. The special feature of this line is that it throws all the strain of the line on a separate bearing within two and one-half feet of the ground.

Any length of stroke can be obtained by making the legs, pitman and rocker arms longer, without raising the shackle line, reverse arm or bearing.

By using the proper radius on part of a circle with a flat surface to allow some side play on the polish rod, a vertical lift is obtained.

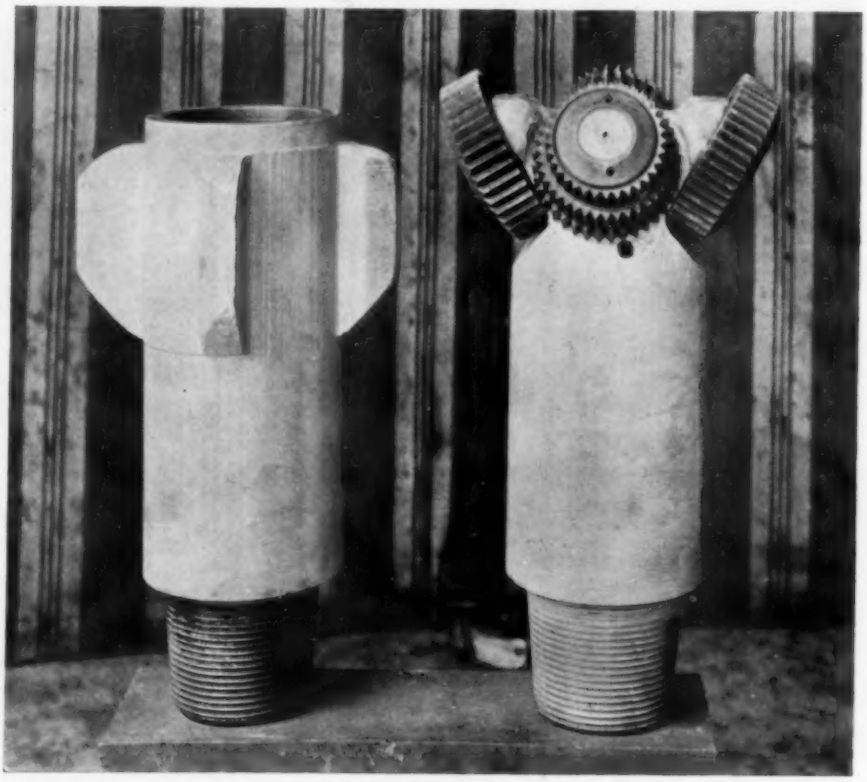
End adjustment is made possible by using two pair of holes in channels of the beams and oblong holes in the rocker arm, all properly spaced.

Effective side adjustment makes it possible to keep the rocker arm exactly centered over the polish rod.

In the reverse arm and on the beam a variety of adjustments from a 12 to 60-inch stroke or more is obtainable.

Any desired counter-balance can be used, as the jack is constructed strong enough to support it.

Further information may be secured by communicating with B. G. Goble, P. O. Box 88, Tulsa, Oklahoma.



Skeleton Rock Bit

Skeleton Rock Bit Makes Good in Field Tests

Through Saunders Brothers Machine Shop, at 112 South Pickering, Whittier, California, Thomas H. Wobermin recently has perfected and put on the market the Skeleton Rock Bit, a tool that gives promise of creating a place for itself among reliable products.

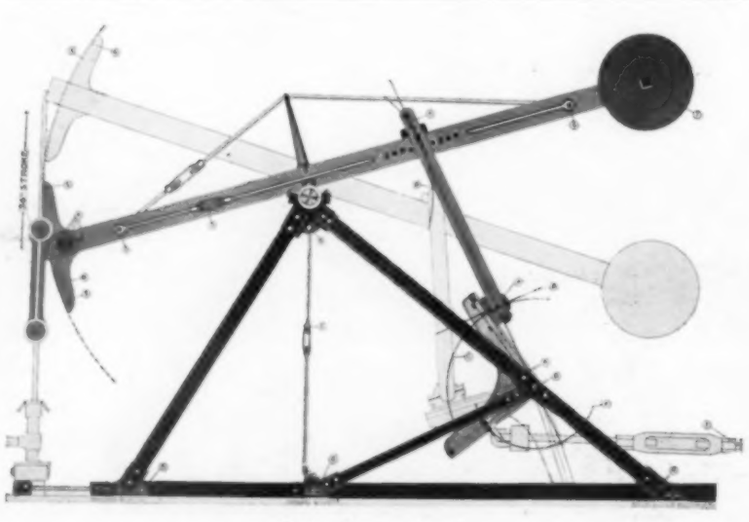
As the accompanying photograph illustrates, the bit cutters are not in any housing and consequently the tendency for them to gum up is lessened.

Another especially attractive feature of the bit is that it is designed to make possible as much as one inch variation in the diameter of the hole drilled without changing the bit head. This is done by substituting larger or smaller soft steel cutters, as the case requires. After the bit is on the derrick floor, a change of the cutters may be made in 15 minutes.

For drilling holes up to and including 10⅝ inches diameter, the bit carries six cutters, while the one used to drill holes of greater diameter carries eight cutters.

Positive slush lubrication cuts down wear on parts of the Skeleton Rock Bit, and in a test, the tool was used forty runs without serious damage to the head.

Further information may be obtained from Saunders Brothers Machine Shop, 112 S. Pickering, Whittier, California.



Goble Pumping Jack

Stoodite Is Recommended for Drilling Bit Facing

In order to obtain a rod that would leave a deposit of the same hardness as the rod before its application, The Stoody Company, Whittier, California, has announced Stoodite, a super-hard facing metal. According to the manufacturers the rod does not contain expensive alloys and can be made and sold at a reasonable price.

Stoodite is a hard self hardening metal, composed chiefly of alloys and is a product of the electric furnace. It is specially adapted and recommended for facing the cutting edges of oil well tools,

drawing and trimming dies, machine cutting tools, such as lathe tools, boring and planing tools, etc., wherever a very hard cutting tool is required.

The hardness number as shown by the Schore Scleroscope on the deposited metal is 70, remarkably hard when it is realized that no heat treating is necessary to secure this result.

The manufacturers state that there is included in Stoodite a sufficient and proportionate amount of the various alloys that will compensate for the deficiency caused by the welding process, so that the deposited metal is actually superior to the original rod.

Stoodite is easy to apply. In applying to lathe tools or machine cutting tools it is necessary to keep each layer in a molten state a little longer than is usual with other rods, by allowing the torch to play upon it. This is very important where toughness is desired, as the excessive alloys have to be reduced.

Further information will be supplied by the company on request.

Beam Pumping Unit Uses Fordson Power

A pumping unit designed for pumping oil wells from the beam has been developed by The Oklahoma Engineering and Foundry Company, 1605-15 S. Cherokee Street, Muskogee, Oklahoma.

The unit is one using the Fordson Tractor for a power plant. The unit is placed on a concrete foundation, the shaft line being on the same line that the present band wheel and crank are placed. A pin is furnished that fits the crank and this, in turn, operates the walking beam for pumping. The outfit can be operated either on gasoline or gas.

The unit itself consists primarily of a Fordson Tractor less the wheels, the driving axles, differential and housings. A large shaft is placed through the rear housing of the tractor. The bearings on this shaft are standard Fordson bearings, of sufficient capacity to stand the load and pulls on them. This unit operates through the Fordson transmission worm and gear. In addition to using this shaft for operating the crank, it is extended on the right side to accommodate a cable drum which is a friction drive, free release type having a liberal sized brake to handle any load required in rod and tubing work as well as bailing.

Normal pumping speeds are obtained by using intermediate tractor gear, which is the gear the tractor was designed for. For most operations, based on 20 strokes per minute, by using different gear ratios, a low speed of 600 r.p.m. of the tractor motor is obtained, with 15 h.p. available, for shallower wells. For deeper wells the gear ratio can be changed to take care of 20 strokes per minute at 1100 r.p.m and 27 h.p. available.

The unit as built at this time has a crank throw of 40 inches maximum and a minimum of 20 inches. These can be changed to suit the requirements of the user.

The cable capacity of the cable drum is 680 feet of ¾-inch line, 980 feet of ⅝-inch line, 1540 feet of ½-inch and 2740 feet of ⅜-inch line. Should more capacity be desired on the cable drum, this an be accomplished by changing the diameter of the present drum, which in turn will give a slower line speed and a higher line pull. The straight line pull of this unit will vary with the different combinations of gears. This most generally will be as follows:

Low gear, 7,700 pounds at 88 feet per minute.

Intermediate, 4,700 pounds at 128 feet per minute.

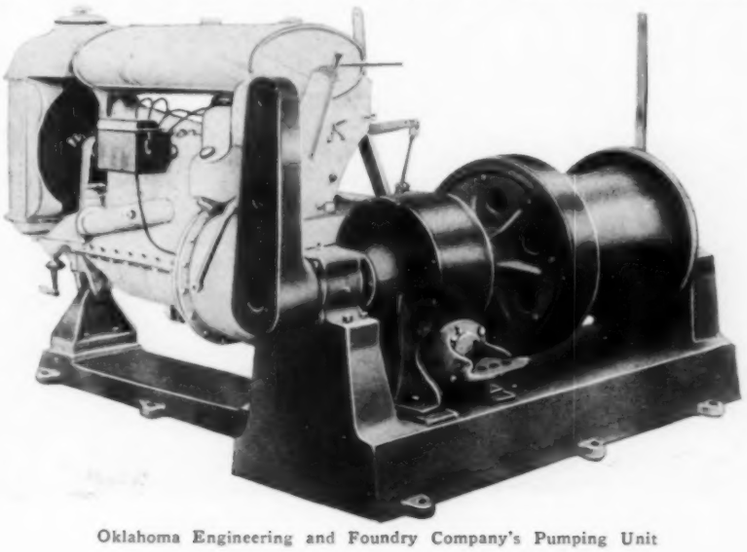
High, 1,500 pounds at 400 feet per minute.

Based on 1,000 r. p. m. of the tractor motor.

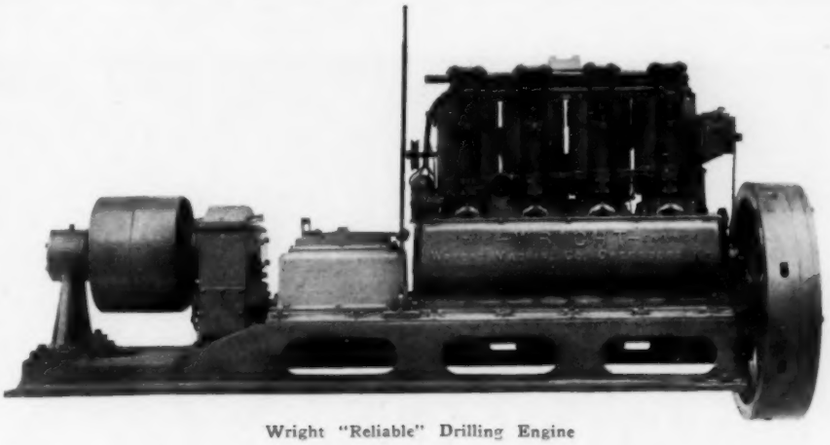
These gear combinations will enable the operator to change his line speeds several times on pulling a string of rods or tubing as the load becomes lighter and will enable him to operate his engine at a lower speed, which will give him power, fuel economy and longer life of the engine.

By using a different set of gears, it is possible to get a striaght line pull of 10,000 pounds at 60 feet per minute, while the highest speed obtainable would be 2,200 at approximately 270 per minute.

Further information can be obtained from the Oklahoma Engineering and Foundry Company, Muskogee, Oklahoma.



Oklahoma Engineering and Foundry Company's Pumping Unit



Wright "Reliable" Drilling Engine

Wright Engine Burns Gas, Gasoline or Both

The Wright "Reliable" natural gas-gasoline drilling engine, just now being put on the market, has met with a favorable reception wherever it has been used. The engine has undergone long and thorough tests in Kentucky fields, where it has already earned a good reputation.

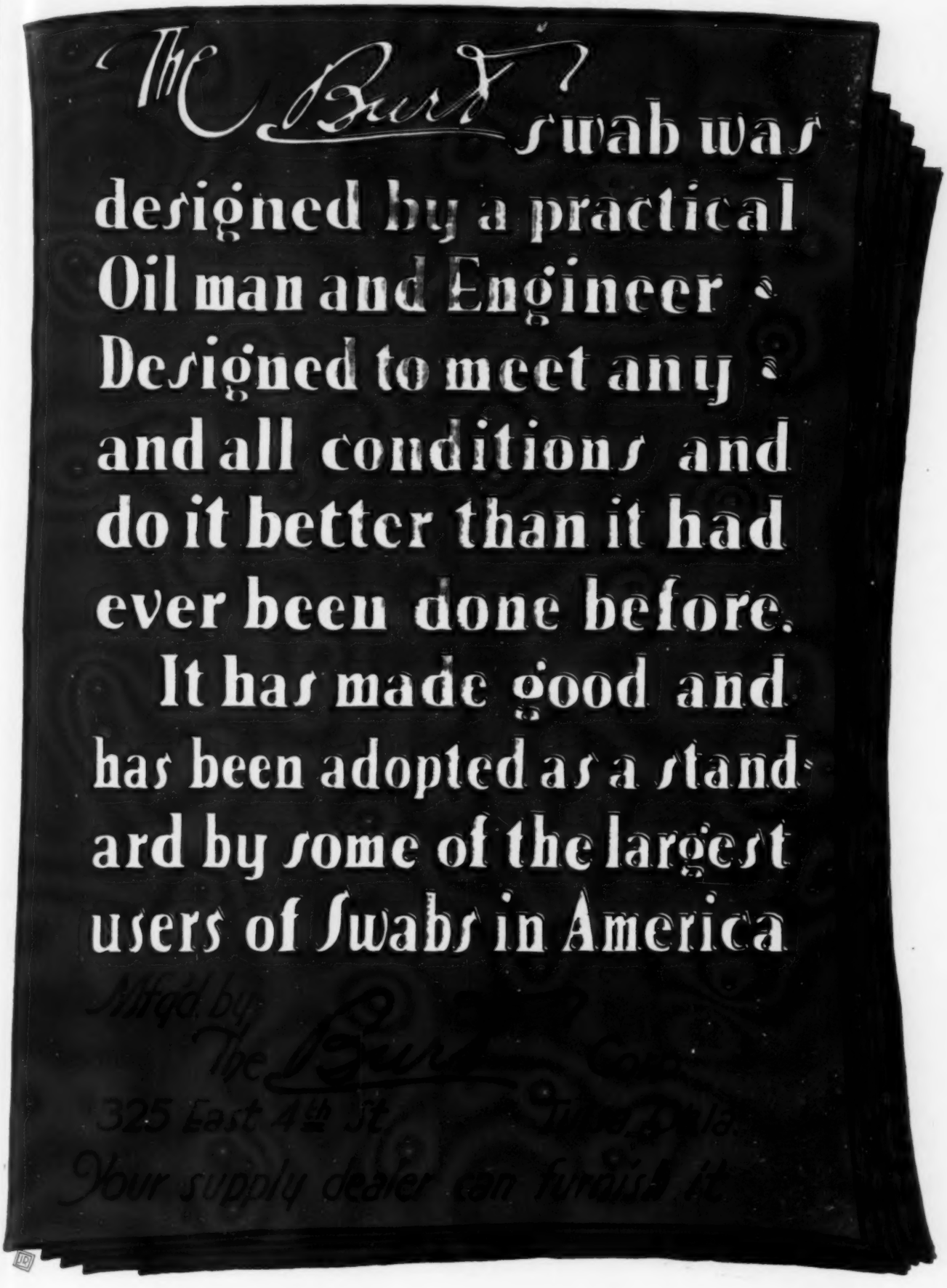
The engine is made in two four-cylinder sizes, one to take care of drilling to 2500 feet and the other one to handle depths to 5000 feet. The general design and construction of the two sizes are identical, so an operator becoming familiar with one is also familiar with the other.

The Model "S" Drilling Engine will consume 3000 to 5000 cubic feet of gas in 24 hours, and the Model "P" 4000 to 6000 cubic feet, the amount of fuel depending on the depth of hole, kind of formation, weight of tools, condition of the rig, quality of gas and other factors. To change over from natural gas to all gasoline it is only necessary to remove a compression plate from the bottom of

Standardization means economy to the Oil Industry ~ but it must be ~ ~ founded upon a sound foundation ~.

Equipment must be designed to meet all conditions and do it in the most economical manner.

The Burt Swab will meet all the above requirements.


"The Burt" swab was
designed by a practical
Oil man and Engineer
Designed to meet any
and all conditions and
do it better than it had
ever been done before.
It has made good and
has been adopted as a stand-
ard by some of the largest
users of Swabs in America
Mfgd by
The Burt Co.
325 East 4th St.
Your supply dealer can furnish it

each connecting rod. The gasoline consumption on the Model S is from 30 to 50 gallons per 24 hours and 40 to 60 gallons on the Model P.

The clutch and reverse gear are built together, entirely enclosed in a dust and oil tight housing and operate in a bath of oil. The clutch is of multiple disc type and the reverse gear is of planetary type, arrangement of clutch and reverse lever is the same as used on the standard steam rigs.

The combination gasoline and natural gas carbureto: is arranged to burn either fuel separately, or where there is only a partial supply of gas, a combination of gas and gasoline can be burned. This carburetor was perfected only by repeated tests in the field, and will take care of all changes in speed and give flexibility of operation.

The split steel pulley is mounted on a large shaft made from the same material as the crankshaft and this shaft operates on four large Timken roller bearings enclosed in an oil and dust tight housing, which eliminates the necessity of constant attention to lubrication of bearings

The engine and clutch and reverse gear are built integral on one bedplate and they are mounted togethe: with reduction gear and pulley bearing pedestals on an extra heavy cast steel sub-base so that the entire unit is always in perfect alignment. A place is provided for taking engine brace for keeping belt tight. The complete outfit is mounted on heavy wheels and axles that are readily removed in a few minutes. The truck is furnished complete, with cast steel fifth wheel, tongue, double tree, single t ee, chains, etc.

Literature describing and illustrating the engine may be secured from the Wright Machine Company, Owensboro, Kentucky.

Gas Burner Made in Units Is Easy to Install

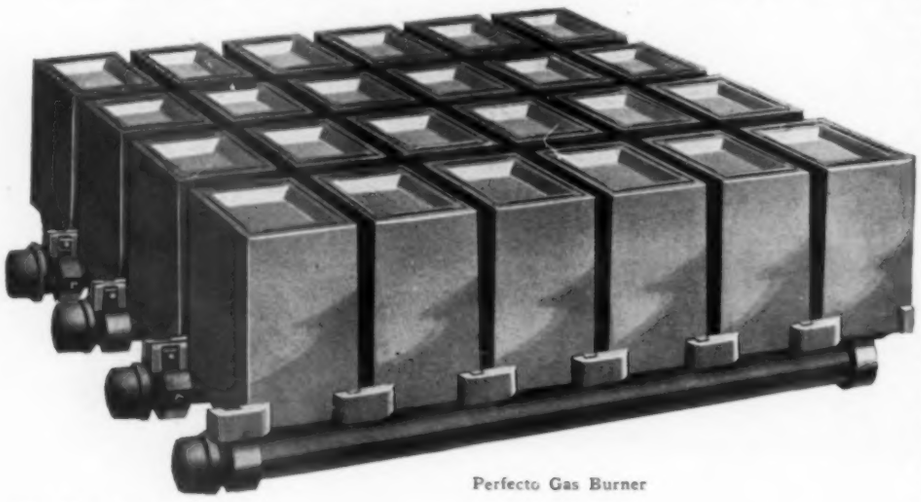
A gas burner for use in the fields is being marketed under the name of the Perfecto, by the P. J. Sonner Gas Burner Company, Winfield, Kansas. This burner is manufactu.ed in units and is claimed to have a number of points of superiority.

It is said that the success of the burner is due to the thorough mixing of the air and gas before combustion takes place. The Perfecto has demonstrated in field tests that it makes plenty of steam for rotary drilling on five to 10 pounds gas pressure.

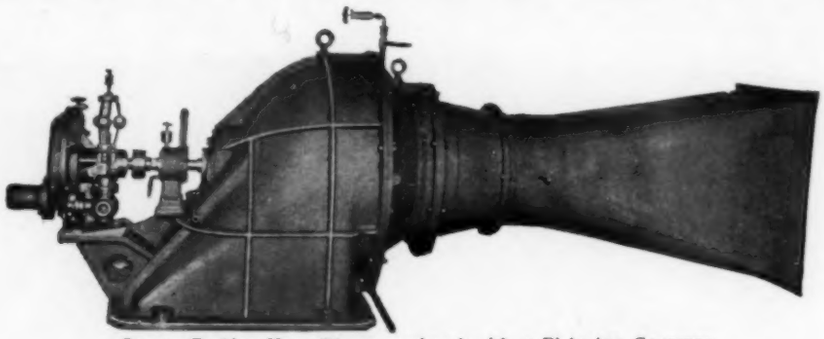
Since it is made in units, the burner is easily installed and is also easy to repair in case of accident.

The Perfecto is adapted to all types of heating apparatus.

Further information will be provided by the company on request.



Perfecto Gas Burner



Coppus Turbine Vano Blower equipped with a Pickering Governor

Pickering Governors Used on Field Engines

A unit widely used in the oil field is the Coppus Turbine driven re-circulating Vano blower equipped with a Pickering governor.

The Pickering governor, because of its close governing of the tu bine due to the spring principle insures steady furnace temperature and pressure, maximum combustion efficiency with minimum fuel consumption, increased yield of gasoline.

Pickering governors are the standard equipment of engines made by the Titusville Iron Works, The Weber Engine Company, The Oil Well Supply Company, The Butler Engine & Foundry Company, and many other concerns furnishing power units for oil field service—both drilling and pumping.

Pickering governors are made for steam engines, turbines, gas engines, tractors, Diesel engines. Full information about these famous governors and their application to the oil field may be had by addressing The Pickering Governor Company, Portland, Conn.

Replaceable Cutters Give New Rotary Bit Great Speed

A new type rotary bit that has replaceable cutters doing the work of an ordinary fish tail bit is being manufactured by the Painter-Bundy Tool Company, Inc., Wichita Falls, Texas, and marketed under the trade name of the Painter Replaceable Cutter Rotary Bit. New features have been embodied in this bit that permit greater speed and less bit cost per foot in drilling, with fewer fishing jobs, according to the claims of the manufacturer. Only high quality materials are used in the making of these bits, and the main body is said to be almost indestructible, while t h e high grade steel used in the cutters affords maximum footage in all formations.

The Painter rotary bit is made in standard sizes varying from 6¼ to 11-inch, while odd sizes are made to order upon request. The main body, or head of the tool, is not subject to any appreciable amount of wear while making hole. The main body is made from a good grade of carbon vanadium tool steel, and is so constructed that it permits the use of different sizes of cutters, as well as different shaped cutters. Three types of heads, or main bodies are made for the purpose of using two-way, three-way and four-way cutters. The latter type being designed to take cores of the formation while d illing when desired.

The cutters are designed to fit in the main body of the bit in tapered slots, which automatically tighten as the weight of the drill pipe and bit presses the cutters to the bottom of the hole. because of their comparatively small size a high grade of steel can be used in their manufacture without involving the ex-

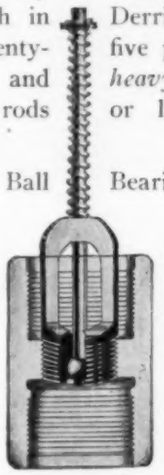
The B & A *Quality Line*

Hook Open

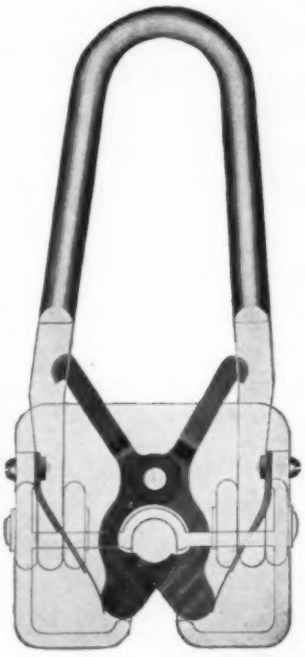
B & A Safety Rod Hook. A safety hook that IS safe. The weight of the elevator CLOSES and LOCKS it *AUTOMATICALLY*. It positively CANNOT OPEN until released by hand pressure on the handle, which is protected from opening from any accidental contact. Nothing to catch in Derrick Girts. Weighs only twenty-five pounds, but *perfectly balanced* and *heavy enough* for the longest string of rods or light strings of tubing.

Enclosed Ball Bearings.

Hook Closed



The B & A Tubing Back Pressure Valve. Designed for use when air or residue gas is being pumped into the well through the tubing. Will hold the pressure on the well at all times. Especially constructed valves and seats allow all scale and dirt to pass through. Made for all sizes of tubing.



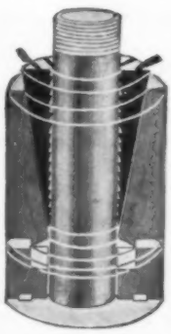
B & A
Underslung Rod Elevator

Underslung and balanced, making rod hang straight, preventing kinked rods.

Safety latches, one above the other and acting from opposite sides entirely close opening, making it impossible for rods to twist out if hook does not swivel.

Wearing plates dovetailed into body and easily renewed.

All wearing parts renewable and interchangeable.



The DA-RO Self-Packing Tubing Ring

A safety feature combined with practical utility.

An ideal packing ring for gas wells or wells on which the vacuum is being held. It packs both around the tubing and on the casing head top, while the slips carry the tubing.

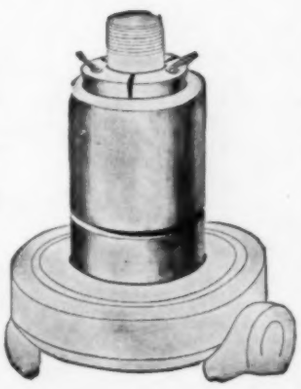
Made from the best quality electric steel castings and especially hardened slips.

Tubing cannot settle nor slip through from pumping vibration.

No bolts to tighten. No special packing.

So low in price you cannot afford to be without one on each well.

Baker Casing Shoe Co.
Bartlesville Supply Co.
Acme Fishing Tool Co.
Garrott Brass & Machine Company
Dexter Valve Reseating Machines
Durabla Mfg. Co.
Novo Engine Co.
Robinson Orifice Fitting



B & A Specialty Company

404 W. First Street **Telephone 3-3282**

TULSA, OKLAHOMA

"Gentlemen of the American

In extending our greeting to you while you are in convention assembled, may we taken this means to direct your attention for a moment to how properly equipped and perfectly prepared we are to serve your every need.

In the twenty years of Bridgeport's history as a manufacturer of drilling and fishing tools we have risen from a minor to a major position among a field filled with good ones. In our relations with our customers we have always borne in mind that every purchase means someone's preference, and we have strived through correctly designed and mechanically perfect tools to win that preference and to continue to merit it.

Our Swan Underreamer for instance is not good because it is old, but old because it is good, and in its forty-one years service in the oil fields it has proven its superiority.

The fact that Bridgeport has survived the test of time and its tools have won recognized merit through the acid test of oilfield usage speaks far more eloquently of Bridgeport and its products than anything we might say here. The confidence which you

THE BRIDGEPORT

GENERAL OFFICES

WICHITA

BRANCHES—Wichita, Kans.* Russell, Kans.*
Tulsa, Okla. Stroud, Okla. Depew, Okla.
Braman, Okla.* Pawnee, Okla.* Ranger, Tex.
Isom, Tex. Marietta, Ohio

Say you saw it in The OIL WEEKLY

Petroleum Institute"

men have manifested in Bridgeport, and which we so greatly appreciate, is no better evidenced than by the fact that thirty days after we had introduced our Bridgeport Hychrome Drilling Bit, the bit with the guaranteed pin, our factory was ninety days oversold.

Our Hychrome Prosser Rope Socket found instant favor, not alone because of its Hychrome pin and box, but because of the confidence you men had in our word when we told you it was better than anything you had ever bought before. Proud as we are of our tools, of the work they do in the field, of the help they are to you; proud as we are of the service covering the oil fields, we are proudest by far of the confidence you men have so eloquently expressed in us as exemplified by the increased volume of our sales year after year, and in thanking you for the confidence so expressed we pledge our word that, that confidence shall never be abused; that we will continue to merit in the future, as in the past, the faith you have placed in Bridgeport and her product.

MACHINE COMPANY

AND FACTORY

KANSAS

Gorham, Kans. Eldorado, Kans. Winfield, Kans.
Wetumka, Okla. Tonkawa, Okla. Garber, Okla.
Panhandle, Tex.* Breckenridge, Tex.

*Complete stock of Contractor's Supplies carried here

pense of a fish tail bit. After becoming worn through usuage, the cutters can be built up and refaced with high speed self-hardening steel at a small expense, and the same operation can be repeated many times on one set of cutters. These cutters are securely attached to the bit by a sleeve that slips over the main body, with a lock-screw holding the sleeve in place. The cutters are removed by taking off the sleeve, and the operation can be done by one man, while it is not necessary to break the tool out of the drill collar.

The circulation of mud through the Painter bit is somewhat similar to the principle used in drilling with fish tails, except that the water hits in the center of each cutter, thereby keeping the blades cooler and cleaner at all times.

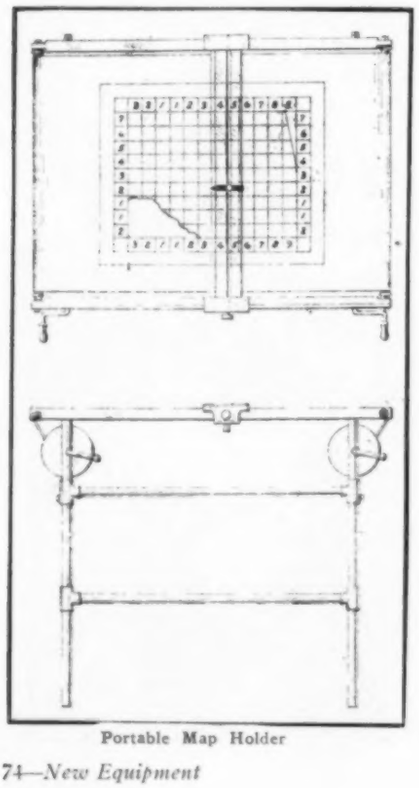
A Portable Map Holder With Finder for Land Departments

A novel device in the form of a portable map holder with a "finder" attachment, designed to be particularly useful in land departments of the industry, has been invented by W. J. Morris of Denver, Colo. It is claimed that after several months usage, this device has been found to be very practical, and almost indispensable as a means for having state maps always convenient, and also a means of locating instantly thereon any township or town.

Briefly described, the device consists of a table supported by a plurality of legs, with rollers attached underneath and near the ends of the table. The "finder" attachment consists of a slide, or straight edge, extending across the table north and south and movable east and west; the pointer attached to the slide and movable transversely—north and south. A strip of cloth or paper with a map, or maps, printed or mounted thereon, which is to be used in connection with the device, is attached to the rollers and the strip travels to the left or right across, or over, the table. When it is desired to locate any certain township or town on the map, the strip is run across the table until the proper state is arrived at; the slide is then moved east or west to a column of township numbers, and the pointer is fixed at the proper township; the slide is then moved into the proper range, and the pointer rests at the township desired. This whole operation of first finding the state, then locating thereon any certain township or town requires a matter of only a few seconds. It is claimed that with a strip containing 13 maps representing an aggregate of approximately 26,000 townships, any one of the townships can be located on the map within a maximum of ten seconds.

This device is being used in the land department of one of the large oil companies as a part of its index system. For instance—in each square representing a township, (varying from one-fourth-inch to one-half-inch square) is a figure or set of figures which represent the plat-book page or the number of a large sized map showing the township on a large scale. Another figure or set of figures, in another color, may relate to some other data—such as geological report covering, etc. The device has been built of dimensions to accommodate standard maps, such as are found in Rand McNally's standard atlas.

Further information may be obtained by communicating with W. J. Morris, 528 Patterson Building, Denver, Colorado.



Portable Map Holder

Foamite Mixing Chamber

Foamite Mixing Chamber Has Gas-Tight Diaphragm

To prevent the accumulation of condensate which has been noticed in their Series "A" open-mouth Foamite Mixing Chambers, the Foamite-Childs Corporation, Utica, New York, is announcing a new vapor-proof type mixing chamber, to be known as Series "B".

This series of mixing chambers has a gas-tight diaphragm across the mouth to block off the vapors from entering the chamber. This diaphragm can be easily and quickly replaced without disturbing either the flashing or the bolts securing the chamber to the tank. Control valves are operated in the usual way.

The chamber itself is built to withstand the strains to which it is subjected in service.

Another improvement over the "A" chambers, is the new removable feature of the bottom which permits easy inspection and painting of the interior.

More information will be furnished by the company, upon application.

"Handy Andy" Has Many Power Uses

Handy-Andy, the small, portable power unit, manufactured by the John Waldron Corporation, New Brunswick, New Jersey, is said to pull, move, or lift with tremendous capacity.

The outfit is light, compact and easy to move from place to place on its small truck wheels. Its size permits work in close quarters.

The jack is all steel and is made in

Handy Andy Power Unit

sizes that have a range of from 10 to 40 tons line pull.

It has been found of great service in pulling pipe and casing, pulling out stalled trucks, shifting and unloading heavy equipment, moving and erecting tanks, moving cars, short pulls, etc.

More information will be furnished by the John Waldron Corporation, New Brunswick, New Jersey.

Magie Temper Screw

Safety Is Big Feature of Magie Temper Screw

Safety in operation characterizes a temper screw recently patented by M. H. Magie, 807 Pierce Avenue, Houston, Texas, and now being manufactured and distributed to the oil trade.

In design and construction this screw consists of double reins suspended from a bearing firmly bolted on the end of the beam. These reins cannot be jerked off accidentally.

Carried by the reins at the bottom is a cylindrical box vertically placed within which is a split nut of bronze. The nut is so arranged that it can be spread out of engagement with the screw itself. The screw runs through the center of the box and thus upward between the reins and is held rigidly in place by a guide at the top, adapted to run in the slot between the two reins and so hold the screw that it does not rotate at all. The split nut is rotated on a large ball bearing carried in the bottom of the box to carry the load. The nut is operated by a frame rotatively placed in the box. The frame is operated by a worm run by a sprocket and endless chain and can be operated in either direction so as to run the screw up or down under load.

There is a worm gear keyed to the upper end of the frame that carries the split nut, that meshes with the worm on the sprocket wheel shaft. To release the split nut from the screw there is a lever provided that carries both the worm shaft and also is connected with the frame that carries the split nut.

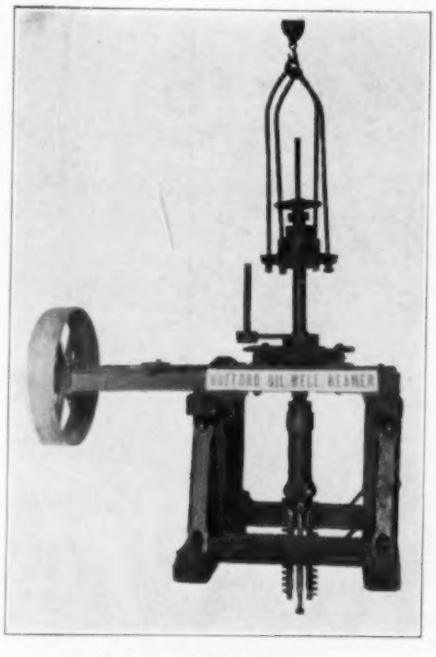
In raising the lever a slotted cam arrangement in the split nut and frame separates the nut and allows a dog to engage with the screw to hold it from dropping down and at the same time it engages a small pinion on the worm shaft with a gear on an independent shaft secured in a frame screwed to the reins above the box which shaft also carries a bronze pinion always in mesh with the screw and is used to run the screw up or down quickly when not under load to get it into working position. Then by releasing the catches provided, the lever and frame carrying the worm shaft and sprocket and also the frame carrying the split nut, the lever carries them back down in mesh, and the screw is ready for work under load again.

Hufford Oil Well Reamer For Cleaning Out

The Hufford Oil Well Reamer, patented by John W. Hufford, and being distributed by the Hufford Electric Company, 1245 Wood Avenue, Kansas City, Kansas, is highly recommended for cleaning out wells.

The outfit consists of a pair of reaming cutters adapted to be expanded in engagement with paraffine, shale and other material forming the wall at the bottom of the well. The reaming cutters are adapted for swinging in opposite directions and the reamer is provided with means for retaining the cutters in retracted relation, controlled by the sucker rod and resting on ball bearings. The reamer is also operable to release the cutters for movement in response to automatic means for actuating the same into outwardly spread relation for effecting the reaming operation.

A folder describing the apparatus in detail may be secured from the above company on request.



Hufford Oil Well Reamer

Liberty Cleaner

Liberty Surface Cleaner Has Variety of Uses

In response to the demand for a cleaner to remove rust, paint, scale, etc., from exterior surfaces, the Liberty Manufacturing Company, Frick Building, Pittsburgh, Pennsylvania, announces the Liberty Surface Cleaners. The machine is adapted to any service requiring the rotary motion of a steel brush.

The pneumatic type consists of an air-operated motor with an aluminum valve handle which screws into the rear opening in the case of the motor, a steel wire brush mounted in an aluminum cup being attached to the shaft of the motor. An air pressure of 50 to 75 pounds is necessary to operate the cleaner. A sight feed lubricator for distributing oil to the motor and a hose connection for the operating hose are furnished as regular equipment.

Construction of the brush is said to have special features. The steel wire in rugged tufts is mounted in the steel base, and the brush can be used with the tufts extended in a position parallel with the base in the form of a wheel or with the tufts turned at right angles to the base and held in place by the aluminum cup.

Two aluminum discs or washers are furnished, which may be placed between the brush and the cup base as the brush wears down making the brush serviceable to the full lentgh of the steel wire bristles.

Where compressed air is not available an electrically driven cleaner can be supplied. The motor is of the universal type and is furnished for 110 or 220 volts. The handles are adjustable and the grip may be inserted in several positions, wherever most convenient.

Liberty cleaners are built in several

Evaporation—

LIQUID SEATED Safety Valve

Say you saw it in The OIL WEEKLY

has been "Black-balled"

In practically every modern Mid-Continent Refinery and on all types of STORAGE TANKS, Liquid Seated SAFETY VALVES are the "NO" vote against EVAPORATION

A few years ago Evaporation reigned supreme in the Oil Industry. And his levy on unprotected tanks ran into millions of dollars annually. But the "reform movement" has swept Evaporation out of power in over 80% of modern storage systems.

LIQUID SEATED SAFETY VALVES, the "reform candidates," running on a "Conservation and Safety" platform have been returned winners year after year over Evaporation. Unnecessary waste is no longer the plum that cost operators huge sums. For on every tank equipped with these modern and efficient Valves, operators are saving their first cost in 60 days, through elimination of losses due to evaporation and mechanical carrying power, and, at the same time are providing protection against rupturing or collapsing the tanks. Vacuums and pressures are broken on tanks at one-half ounce pressure per square inch.

LIQUID SEATED SAFETY VALVES have no metal parts to grind, corrode or stick. *Liquid Seals* of mercury or glycerine, explain their absolutely tight, non-corroding and non-sticking features. We recommend the use of mercury in warm climates, and glycerine in cold climates.

For added protection against fire hazards, we recommend the use of a flame arrestor and snuffer, such as are pictured below, in connection with LIQUID SAFETY VALVE installations. The Flame Arrestor and Snuffer are mounted on the Valve at the side opening. The cable hands alongside the tank, always in position. It can be seen upon entering the dyke. For further information concerning conservation and safety tank equipment, of which we have a complete line, including GAUGE HATCHES, MANHOLE COVERS, SHEAVE BRACKETS, CABLE WINCHES, SWING PIPE JOINTS AND NOZZLES, write any of the offices listed below, for a new catalog, just out.

WESTCOTT & GREIS, Inc.

TULSA

Dallas **Los Angeles**

Westcott & Greis SAFETY AND CONSERVATION

Say you saw it in The OIL WEEKLY

types, and in sizes to fit all boiler tubes, straight or curved. They may be used with regular cutting heads and drills for removing scale formation on the inside of water tubes. With the Universal joint and drill, they effectively remove by vibration, the scale from the outside of the fire tubes.

Additional information may be had by writing the company.

Unusual Safety Factors in Yale and Towne New Hoist

Yale and Towne Manufacturing Company, Stamford, Connecticut, has recently developed a new Ball-Bearing Electric Chain Hoist, known as Model 20B. This hoist embodies such features as close headroom, long lift, higher speed, automatic top and bottom limit stops, and greater over-all strength. It has unusual factors of safety in the strength of the load-supporting members and is designed to withstand shock loads common to this class of equipment.

The Yale Model 20B can be quickly adapted to any overhead system. The side plates of the trolley carriage can be spaced on steel bars to fit the desired beam flange.

Yale electrically welded steel chain can be furnished for varying lengths of lift. The centralized steel suspension means a constantly balanced load on the trolley wheels and hoisting unit irrespective of load position.

The mechanism is fully enclosed in oil-tight chambers and is compact and easily accessible for inspection without expert service. The ball-bearing load sheave, the latest Yale development, adds a big factor for low current consumption and general all-around hoisting efficiency.

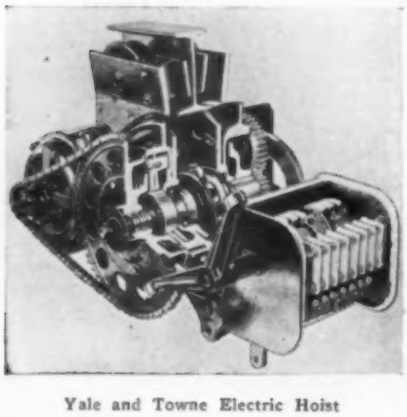
Large chrome vanadium steel ball bearings surrounding the substantial steel load sheave reduce friction and make the Yale Model 20B Electric Chain Hoist still more efficient, requiring a minimum amount of power and giving increased life.

The heavy steel one-piece load sheave, ground on an arbor to give perfect concentricity for the ball races, is bronze-bushed for the driving pinion, and splash lubrication provides a continuous flow of oil over all gears, pinions and bearings.

The driving pinion that passes through the load sheave is machined from a single drop forging, then heat-treated. The bearing surfaces on the shaft are ground to 1/1000 of an inch.

Steel chain containers can be furnished to hold any length of slack chain up to 60 feet for ¼, ½ and 1-ton hoists and 30 feet for the 2-ton hoist. These containers are secured to the under frame of the hoist and do not affect the headroom.

Further information can be had from the company.



Yale and Towne Electric Hoist

Amdyco Foam Generator

Amdyco Perfects Foam Generator

The Amdyco Corporation, 100 E. 42nd Street, New York, has on the market an oil fire exinguishing system that has been tried out in many instances for tests and also that has given unusual satisfaction in actual fire fighting. The outfit consists of a portable foam generator and a special foam powder.

According to the manufacturers these two new developments, the foam generator and the foam powder, represent a decidedly progressive step in oil fire-fighting. The fact that this equipment is portable along with its extreme simplicity, make it no longer necessary to install and maintain expensive fire-fighting systems.

The Amdyco foam generator is a small device, provided with a hopper through which Amdyco foam powder is fed to produce foam when combined with water. The weight of this Amdyco generator is only 60 pounds, which permits its use as a portable unit, mounted on a pumping engine, or in many other ways.

Water passes through the generator and the Amdyco foam powder is automatically drawn in, producing foam. Consistency of this foam is said to be always uniform. If a higher water pressure is used, sending more water through the generator, more powder is automatically drawn into the stream.

Chief advantages of the Amdyco apparatus are said to be:

Continuous production of foam: As long as water continues to flow in the hose line and powder is fed into the hopper, foam continues to come from the nozzle without shutting down to recharge.

No bulky apparatus is required: The generator is a compact device and can be operated by an inexperienced person. It can be placed at any point where water lines can be attached, and the foam delivered wherever desired. In the event of a large fire in an oil refinery, or at a tank-farm, for instance, it is possible to lay a water line to the generator placed near the fire, producing foam continuously right on the spot.

Any department having water pressure can have foam: Requiring only water and Amdyco foam powder, the Amdyco generator is of universal application. Any pumper can supply the pressure for the foam generator if hydrant pressure is not sufficient.

No special hose is needed: The ordinary two and one-half inch hose is satisfactory for use with the outfit. The foam has no injurious effect upon ordinary hose lines.

A special pumper can be provided with the generator attached, carrying 1000 pounds of powder. This quantity of powder will give approximately 8000 gallons of foam, capable of covering an area of 2000 square feet with a blanket of foam six inches deep.

Strength Objective in New "Vulcan" Tong

Increased strength and power are the objectives obtained in the new "Vulcan" Back-Up Tongs, No. 115½, just brought out by J. H. Williams and Company, Buffalo, New York, for use on any tool joint, up to and including the maximum size.

In their No. 115 tongs, which is well known in the oil fields, the first five sets of chain links are heavier than the remainder of the chain; in the new "Vulcan 115½" all the links are of large size throughout, providing increased strength at all points as well as at those of greatest working stress.

The short, stubby handle is of just the right length for rotary use; ample strength is provided by its size and the special grade of stiff steel used in its manufacture. An extra large through bolt and nut for fastening the jaws prevents them from spreading or working loose.

Each chain is individually proof-tested on a standard tension machine to two-thirds its breaking strain and is certified, assuring strength and security in every tong.

Further information will be supplied by J. H. Williams and Company, Buffalo, New York.

Vulcan Back-up Tongs

Wagner Supply Company

Jobbers of

OIL WELL SUPPLIES

Dependable Products

Prompt Service

Distributors of

South Chester Tube Company
Casing, Line Pipe and Tubing for all oil field requirements. Specialists in Casing for deep well drilling.

American Steel and Wire Company Wire Lines for all Drilling Purposes. Standard equipment in every field.

Quaker City Rubber Company
Complete Line of Mechanical Rubber Goods, including Packing and Drilling and Pumping Belts

Branches
Breckenridge
Cross Plains
Ranger

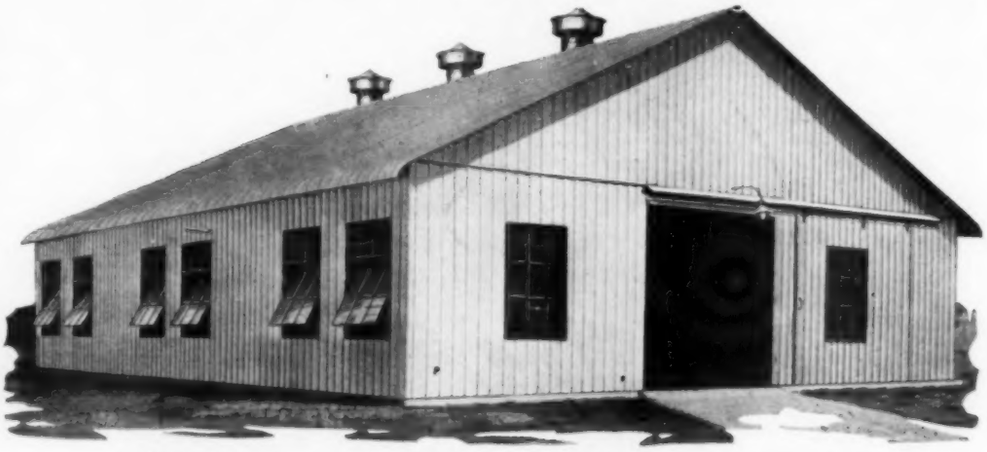
Branches
Best
Borger
Panhandle

GENERAL OFFICES

1604 Throckmorton Street **Fort Worth, Texas**

For Economy, Convenience, Service

Malgamar Oil Company uses this Butler READY-MADE Steel Building as a power house. Similar parts interchange, so erecting or enlarging is easy.



Marland Company uses Butler READY-MADE Steel Buildings as warehouses. These buildings are easily erected. Your own employees can put them up.

Big Lake Oil Company uses this Butler READY-MADE Steel Building as a gasoline plant. At any time it can be added to economically. Butler Building Catalog illustrates and describes all these advantages and many others.

These dealers handle Butler READY-MADE Steel Buildings:

M & V Tank Company, at Wichita Falls, Vernon, Olney, Nocona, Panhandle, Cross Plains and Amarillo, Texas.

Drane-Humphrey Co., at San Angelo, Big Lake and McCamey, Texas, and Carlsbad, New Mexico.

Drane Tank Company at Tulsa and Holdenville, Oklahoma, Eldorado and Madison, Kansas.

M. A. Trimmer, at Blackwell, Oklahoma.

Southern Steel Company at San Antonio and Mirando City, Texas.

D. H. Greenwood, 716 Transportation Bldg., Los Angeles, California.

Petroleum Specialties Co., at Casper, Wyoming.

Thomas Moran, at Oil City, Shreveport and Georgetown, Louisiana.

Continental Supply Co., at Kevin, Montana.

G. J. Gillespie, 32 Fenchurch St., London, E. C. 3, England.

Butler Building Catalog is complete. Shows actual installations of drive-in stations, warehouses, gasoline plants, etc., that oil men are using. Many features and pictures. Send for a copy today.

STEEL BUTLER PRODUCTS

Butler Manufacturing Company

Kansas City, Mo. Minneapolis, Minn.

Foreign Dept.: Room 903, 44 Whitehall Street, New York City.

Butler Products include: READY-MADE Steel Buildings, Cans, Funnels, Buckets, Measuring Pumps, Truck Tanks, Underground Tanks, Storage Tanks, Bolted Tanks, etc.

Say you saw it in The OIL WEEKLY

New Equipment Items Developed By Dunn

Operators who know Dunn products manufactured by the Dunn Manufacturing Company, Oxnard, California, will be interested in three new items developed by this company recently.

Tubing Bleeder Dunn Safety

Tubing Bleeder

For wet jobs the Dunn safety tubing bleeder is recommended.

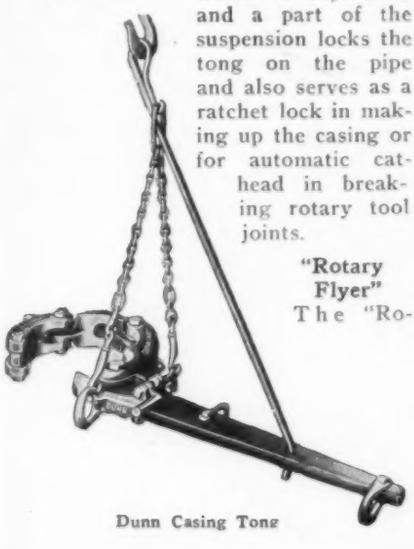
The bleeder is constructed without valves, springs, or balls. It has five scientifically simple parts which are said to function perfectly under the most adverse conditions.

Dunn Casing Tongs

Special features of the New Dunn casing tongs include a new method for suspension that is claimed to hold positively the tongs in perfect balance. This complete suspension fits on any Dunn casing tong handle by placing the link on the handle and locking it in position with a set screw.

Safety is another feature of the tongs, with the excellent balance and the conveniently placed hand-grip.

A safety latch which is adjustable and a part of the suspension locks the tong on the pipe and also serves as a ratchet lock in making up the casing or for automatic cathead in breaking rotary tool joints.



Dunn Casing Tong

"Rotary Flyer"

The "Rotary Flyer" is announced as an advanced type in scientific elevator construction. It is geared to the pipe and cannot be opened while under load. The body, or center member, rises and falls simultaneously with the opening and closing of the doors, which are semi-locked when fully opened, and when closed are locked and forced to tightly hug the pipe, relieving all strain on the latch. Doors are geared together horizontally and vertically—the opening of either forces the other likewise. The stirrup shaped automatic combination latch-handle is especially designed for strength, safety and convenience in handling and in addition to the interlocking gears of body and doors, positively locks the door when closed.

These elevators are furnished in all rotary drill pipe and tubing sizes from two-inch to eight-inch inclusive. The "Casing Flyer" type is furnished in all casing sizes, and the "Tubing Flyer" in all tubing sizes.

Further particulars on these items are available from Dunn Manufacturing Company, Oxnard, California.

Dunn "Rotary Flyer"

Spencer Trailer Company Makes Oil Field Unit

A new model trailer for oil field use, known as Model H for five-ton trucks, is being manufactured by the Spencer Trailer Company of Augusta, Kansas, and sold by the company through distributors. This new type of trailer has been brought out in response to a demand in the oil industry for an extra heavy trailer and it is meeting with success wherever it is used.

The company also has brought out a new model one-half ton trailer for use in the field with tool cars. Hickory is used for the frame of all Spencer trailers, making the members large enough to carry the load, it having been found from experience that this wood does not crystallize as does steel and the frame will stand up under heavy usage. The frame is braced to counteract twisting strains.

Spencer Trailer

The tongue on the Spencer trailers is hung under the frame in order to make it level when connected with the truck and also to give a closer connection between the axle and draft of the trailer. This feature is one of the outstanding characteristics of Spencer trailers.

Complete stocks of trailers and parts are carried at the warehouse of the Leland Truck Equipment Company, 30 North Owasso street, Tulsa, or at the Texas branch at Dallas, or at the company's factory in Augusta. Complete information may be obtained from either source.

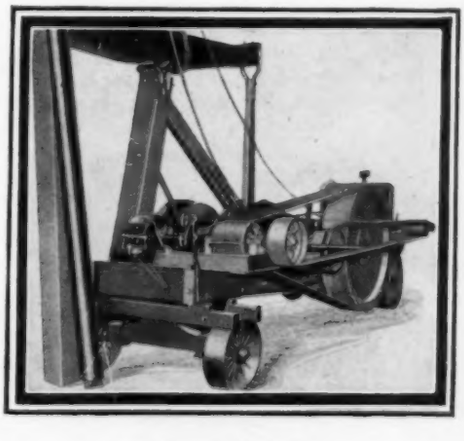
Star Drilling Machine in New Type

The Star Drilling Machine Company, Akron, Ohio, has introduced a new type drilling and cleaning out machine, called the Star "C" Type.

This machine is provided with two speed reversing transmission that permits the same flexibility afforded by steam.

The double belt system, a proven shock absorber, relieves the machine and power unit of shock. The machine can be furnished without the regular power unit and can be used with a tractor or other separate power.

More information may be had on request from the company.



Star Drilling Machine

Frick-Reid Supply Company Offer Five New Items

Among the numerous oil field items diistributed by Frick-Reid Supply Company, Tulsa and Pittsburgh, are several new pieces of equipment that are gaining favor in the fields. These include products of many well known manufacturers.

Reid Reverse Rig

A new heavy reverse rig, similar in construction to their standard rig, but with a number of improvements that give it adequate power and strength to do heavy work on large engines, has been built by the Joseph Reid Gas Engine Company.

The shaft is of steel, five inches in diameter and 74 inches long, with a heavy, steel, double flanged coupling, keyed to one end. The clutch is the new Reid Band Type, particularly suited for heavy work. The brake wheel has a 30-inch diameter rim, providing ample braking surface. A pulley brake working in conjunction with the movement of the clutch lever, enables the operator to hold the pulley exactly where he desires.

The belt pulley is of high grade cast iron and bushed with two bronze bushings. It has a 20-inch face, allowing a wide belt to be used. It can be furnished with 20-inch to 36-inch diameters inclusive.

The brake wheel is bushed with a cast iron bushing.

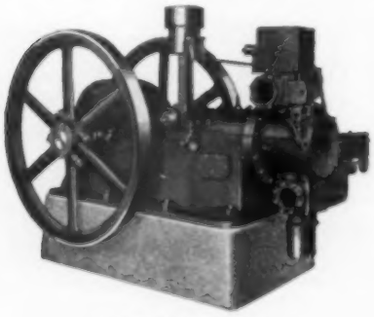
The pulley brake, clutch band and brake wheel are lined with a woven wire asbestos lining.

The reversing gears and pinions are made of steel. They are completely enclosed and run in a bath of oil.

The outerbearing is the Reid standard pedestal type for a 5-inch shaft. Oil is supplied to the bearings by chain oilers from an oil reservoir in the box bottom. Centrifugal oil retaining rings prevent leakage of oil around the end of the bearing.

Heavy Duty Gas Engine

A slow speed, heavy duty gas engine has also been added to the Reid line of gas engines and oil field equipment. It is designed particularly for driving power plants, operating compressors or vacuum plants, or oil field work of a similar nature.



Reid Gas Engine

The engine and cylinder are designed with the bed forming the outer wall of the cylinder water jacket. The advantage in this is the cylinder can be easily removed for cleaning or repairing. The interior of the water jacket is easily reached through large hand holes in the bed.

The connecting rod is of forged steel with tee heads on both ends. The bearing on the piston end is a two-piece bronze bearing with metal liners for adjusting the two halves. The crank pin bearing is made with a steel body and lined with high grade babbitt.

Particular attention has been paid to the inlet valve construction. An annular port extending completely around the valve is drilled for a number of brass tubes which are slotted lengthwise on one side. The gas is admitted into the case through these tubes coming out through the slots. The incoming air passes around the tubes, resulting in a perfect mixture of air and gas, a feature that makes for low gas consumption and clean, economical service, The exhaust valve case is water jacketed and has a protecting apron which prevents hot gases from coming in contact with the valve stem. The inlet valve, exhaust valve, and air starter valve are all operated by one cam, so formed that the valves seat without shock, resulting in noiseless and trouble-free operation. The cam shaft is driven by helical gears from the main shaft.

The oiling system has been designed to furnish ample lubrication under the hardest operating conditions. A Manzel force feed oiler supplies oil to the cylinder and exhaust valve stem. A mechanical flood oiler of Reid design provides oil to crank pin and main bearings. Chain oilers are also used on the main bearings. The crank pin is fitted with a centrifugal ring oiler. All minor bearing points are equipped wth ol cups.

A Wico Igniter supplies dependable ignition. The spark plug is placed in the center of the end of the cylinder, the most advantageous location.

Adequate provision has been made for cooling the engine, the water jackets being large and designed to give a free flow of water to all parts where cooling is desired. A Reid centrifugal water pump is furnished to assist in circulating the cooling water.

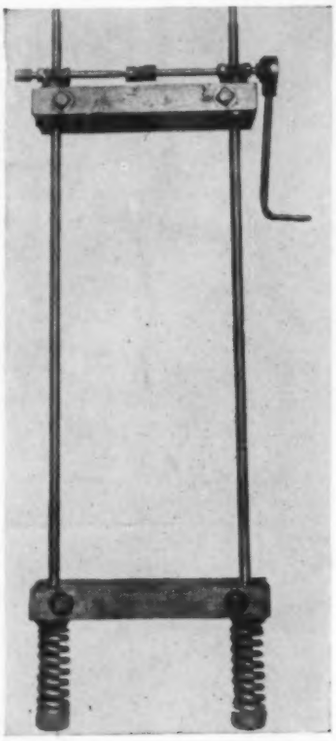
Close speed regulation is insured by a belt driven Massey governor.

An air starter outfit complete is furnished with the engine to insure easy and convenient starting.

This engine is equipped with a Reid cut-off type clutch making it suitable for any oil field work where one-way motion only is required.

Calib Metal Treatment

Calib is a boiler metal treatment made by the Wilson-Spear Company, Los Angeles, and sold by the Frick-Reid Supply Company in its stores west of the Mississippi. Calib Metal Treatment does not treat the water, but treats the boiler metal instead. It is said to be extremely effective in preventing scale.



McElwe Belt Stretcher

The manufacturers recommend that it be introduced in to the boiler through the suction of the pump, provided there are no filters, economizers or other heated receptacles between the pump and the boiler. It should be introduced all at once, not gradually. it be introduced into the boiler through Where several boilers are fed from the same pump, the lines to all boilers, except the one receiving its dose of Calib, should be closed.

Calib metal treatment forms a protective film or white coating on the boiler metal. As soon as this white film forms, the dose recommended by the manufacturers for initial treatment can be reduced from 25 per cent to 50 per cent, or until the applications are barely heavy enough to maintain the protective film on the metal, and prevent the formation of new scale.

Boilers rated at 30 h. p. and below require one pint of Calib metal treatment for each 12 hours operation, initial treatments.

Boilers from 100 to 200 h. p. require two quarts. Larger boilers in porportion.

McElwe Belt Stretcher

It is said that the McElwe Calibrated Belt Stretcher makes it possible to put

(Continued on page 86)

LE BUS
WALL HOOK OVERSHOT

A LE BUS product backed by the LE BUS guarantee of satisfaction to the customer.

A fishing tool that will fit any fishing job.

—and a SURE SHOT

ALL SIZES

—Special size given special attention. Packing off ring, and backing off slips furnished on request.

Write for literature

LE BUS PATENTED OIL WELL TOOLS

- LeBUS Automatic Cathead
- LeBUS Slipsocket Overshot
- LeBUS Eureka Tongs
- LeBUS Breakdown Post
- LeBUS Bottom Hole Plug
- LeBUS Outside Drill Pipe Cutter
- LeBUS Inside Pipe or Casing Cutter

AT YOUR DEALERS

MANUFACTURED BY THE

LE BUS ROTARY TOOL WORKS

ELECTRA, TEXAS

Short Length of Swab Gives it Advantage

A new model of the Guiberson Swab has been announced by The Guiberson Corporation, after thorough field tests in the Garber and Tonkawa districts. The new design is called "Type E," and is intended primarily for production work.

The swab works on the same principle as the old Guiberson swabs. Wire supported composition cups are used to permit ready yielding in passing through rough or indented casing. An extra large mandrel and check valve provides ample passage way for the fluid when running in. Fluid also readily bypasses the cups, so that the swab goes down the hole easily and rapidly.

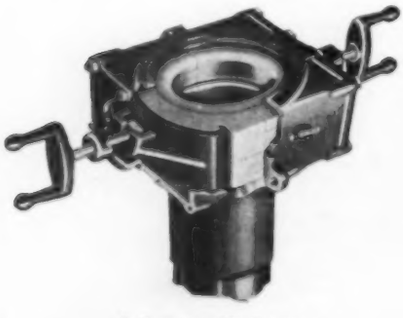
A feature of the new swab, according to its manufacturers, is its simplicity of operation. In changing cups the check valve at the bottom is unscrewed, after which the two cup assemblies and the loose sleeve which separates them, readily slip off the mandrel, enabling new cups to be slipped into position.

The short length of the swab gives it an advantage in going around crook in the hole.

Guiberson Casing Oil Saver

The Guiberson Corporation have added to their list of patented oil field specialties a casing oil saver, quite similar in principle to the Guiberson tubing oil saver.

The exterior view of the new device shown here, shows the saver attached to the outer casing and the smaller diameter casing being run through it.



Guiberson Oil Saver

Rubbers are easily and quickley tightened around the casing to be run, by means of the screw dogs, and are resilient enough to readily permit the passage of collars without loosening. The same type of rubber is utilized which was developed for the Guiberson tubing oil saver as a result of extended experiments.

All parts of the saver are made in two sections, so that it can be placed around a casing at any time desired. New rubbers are inserted by removing the end plates, without disturbing the housing.

This product was developed to meet a demand for a second casing oil saver in certain fields of Oklahoma and the Texas Panhandle. It is being used effectively to prevent poisonous gases from coming out between the casings, while running a string of casing, and also to prevent leakage of oil between the two strings.

For further information address The Guiberson Corporation, Box 1106, Dallas, Texas.

Baldwin Precision Oil Well Chains

Baldwin Precision Oil Well Chains, 1030-S and 1240, are now giving excellent service in the field, according to the manufacturers, The Baldwin Chain and Manufacturing Company, Worcester, Massachusetts.

Baldwin Chain

Pins and bushings of these chains are case hardened and ground to exact size after hardening, thus insuring extreme accuracy in all bearing surfaces.

This accuracy combined with alloy steel pins and high carbon steel links results in long wear and minimum of breakdowns and repairs, claimed by the manufacturers

More information will be supplied by the company on application.

Building 3300 Horsepower Diesel Engine

The Hooven, Owens, Rentschler Company of Hamilton, Ohio, have just completed their 3300 B.H.P. Diesel engine which they are building for the Shipping Board, this engine to be installed in a 9600 ton freight ship. This engine is of the double acting, two-cycle, Hamilton-M.A.N. type and it is the first one of this type to be built in this country and also the largest engine in horsepower.

The engine has four cylinders, each 27½ inches in diameter and 47¼-inch stroke and the compressor and scavenging pumps are attached to the main shaft. The engine operates on air injection and the fuel valves are located, one in the top cylinder head and four in the lower cylinder head. The cam shaft is located on the first platform in front of the lower cylinder head and in additoin to operating the valves, the fuel pumps are driven from cams and timed for each end of the cylinder, one fuel pump for each end of the cylinder.

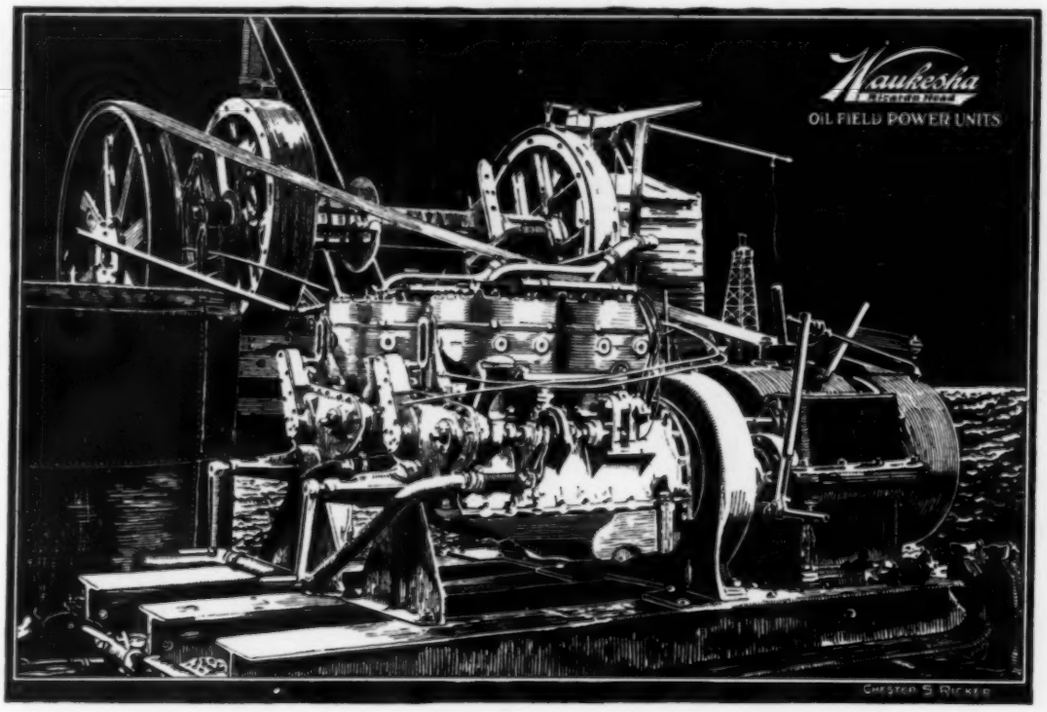
The main structure of the engine consists of bedplate, on top of which are bolted the housings which carry the guides; directly on top of the housings is located an entablature connecting all the housings fore and aft. On top of this lower entablature are the cylinder columns to which is bolted the upper entablature. Large stanchion bolts from the bottom of the bedplate to the top of the upper entablatures absorb all the tensile strain.

Between the columns and between the upper and lower entablatures, the cylinders are located with separate liners and so arranged that there can be freedom of expansion for both the upper and lower cylinder liners as well as the cylinder jacket. The upper and lower cylinder heads are set into the upper and lower entablatures. The operating gear is located on the front of the engine and the entire engine is controlled by one lever, both for reversing the engine as well as for starting and stopping.

This engine is applicable for stationary purposes as well as marine purposes. When operating at an engine speed of 120 R.P.M., it will develop 3000 K.W., in four cylinders. This company is also building two single acting engines of the same cylinder and stroke dimensions as the double acting. These engines will each develop 1650 h. p. at 90 revolutions and will be placed into the tank ship of the standard Oil Company of New Jersey, the "J. A. Moffet, Jr.," forming a twin screw installation. The constructions of these engines are identical except in the single acting engines, the lower cylinder head is eliminated.

More information is obtainable from the company, by request.

Dual Waukesha Engined Drilling Rig in Cat Creek Field



At One Third the Cost

From Montana, F. L. Boyd, using a specially constructed drilling rig equipped with two Waukesha "Ricardo Head" Heavy Duty Oil Field Engines, writes: "our fuel cost was less than one third that of similar capacity steam rig—Drillers Morse McGinley and Perry Culver say this plant the best they ever used."

But power and flexibility are not the only features of Waukesha Oil Field Power Units. Boyd said: "It's so light and easy to handle—We had it working three hours after leaving shop and had only to mount it on two 16 x 16 eight-foot sills with a twin buckle to take care of belt pull." If you are interested in more economical drilling, better write for our "Oil Field Bulletin."

OIL INDUSTRY EQUIPMENT DIVISION

WAUKESHA MOTOR COMPANY

Waukesha Wisconsin

New York	Kansas City	Denver	Tulsa	Houston	San Francisco
Aeolian Building	*V. L. Phillips Co.*	*Wilson Machy. Co.*	*C. F. Camp Co.*	*Portable Rotary Rig Co.*	*C. A. Watts*

Exclusive Builders of Heavy Duty Gasoline Engines for Over Twenty Years

Frick-Reid Supply Company Offers Five New Items

(Continued from page 82)

on belts with the correct tension in the least possible time, and without any hazard whatever to men or equipment.

The manufacturers have this to say about it: "The calibration is secured by means of the two springs and the pounds tension is stenciled on both rods or lead screws just ahead of the clamping blocks against which they rest. .The springs are checked within 50 per cent and a belt may be installed within 15 per cent of the tension that the operator wishes to carry.

There is a 25 to 1 gear ratio between the spur and worm gear or it takes 25 revolutions of the worm gear to get one revolution of the spur gear which gives a travel of one thread on the lead screw. The lead screws carry six square threads per inch and it takes 150 revolutions of the worm gear to get a travel of one inch on the lead screw. This, apparently, seems rather slow but it is not as slow as the old method and even though it were, the belt is not abused, and longer service can be expected from the belt.

With the use of this machine, it is very easy for the operator to tell when he is under belted or over belted if there ever was such a thing in the oil country. All belt manufacturers have an idea of a maximum initial tension with which they would like to have their belts installed, which in no case should ever exceed 200 pounds per inch of width. If this amount of tension will not make the belt carry the load, it naturally follows that the belt is overloaded and it would be better for manufacturer and operator alike to install a wider belt.

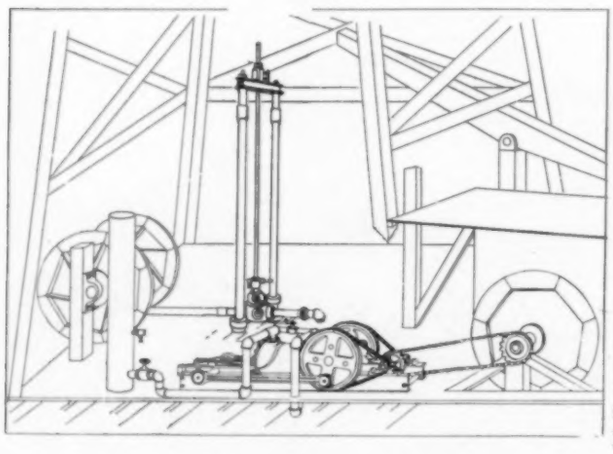
Hydraulic Pumping Unit

The Pacific Oil Tool Company of Los Angeles makes a hydraulic pumping unit which is new in the Mid-Continent fields, where it is handled by the Frick-Reid Supply Company.

The P. O. T. Pumping Unit consists of a double acting hydraulic ram, ramming one body of water under either a single jack or double jack to which the polish rod is clasped, which raises the sucker rods on a 10 or 12-foot stroke as desired. On the back stroke of the ram another body of water is rammed into a counterbalance tank containing air under pressure; developing sufficient pressure back of the piston in the ram to counterbalance the weight of the sucker rods and 40 per cent or more of the fluid; also developing considerable power back of the piston on the forward stroke. By this arrangement the engine or motor is operated against a more or less constant torque.

The whole unit is set on the derrick floor and bolted to the sills directly in front of the band wheel and under the calf wheel. A roller chain from sprocket on the band wheel shaft drives an intermediate shaft. Two sprocket wheels on this shaft, through roller chains, drive the hydraulic pump.

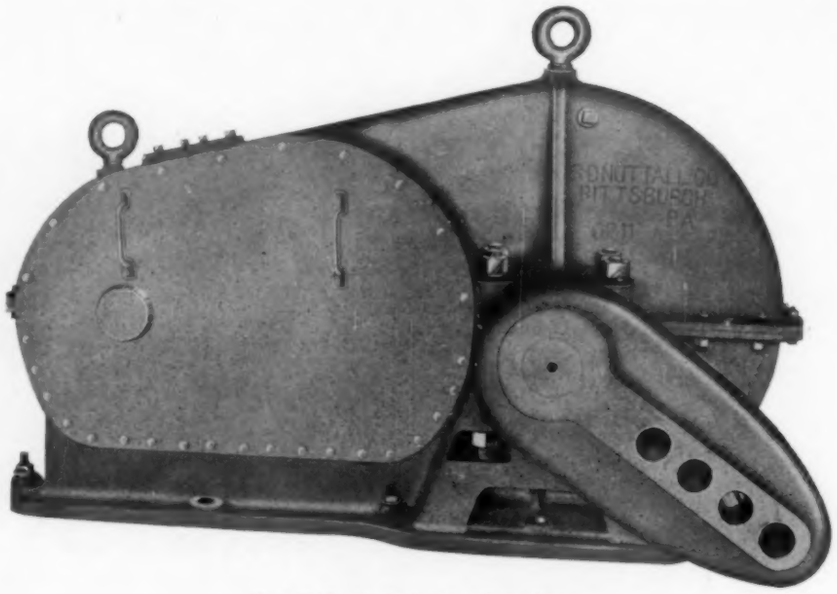
Improvements have been made in this unit by increasing the size of the piston from three to four inches and, instead of a single driving chain, a double driving chain is now used.



Pacific Oil Tool Company's Hydraulic Pumping Unit

More than sixty of these units have been sold to leading oil companies in the Mid-Continent fields for use where a large volume of fluid is to be handled and have proven universally satisfactory.

All these items will be further described by writing the manufacturers, or by Frick-Reid Supply Company, Tulsa.



Nuttall Double Reduction Pump Gear

Double Reduction Pump Gear Unit

The latest addition to the R. D. Nuttall Company's line of oil field equipment is the new OP-11 Double Reduction Oil Well Pump Gear Unit.

In this unit the standard crank on the final drive shaft is attached to the pitman. As with the OP-12, the unit can be used with various types of prime mover; multi-cylinder gas or oil engines or electric motors. The unit will accommodate a 15-35, two-speed oil well motor or a two-torque, 15-40 Delta motor, or any equivalent motive unit. The motive units are mounted on separate bed plates, bolted and doweled to the unit. Prime mover and unit are connected through a flexible coupling which absorbs unusual shocks and facilitates erection in the field by taking up any slight misalignment of the motor and unit shafts.

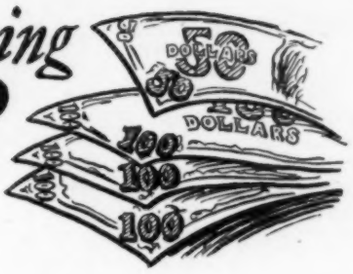
The unit presents an unusual feature in the matter of "Change Gears." By removing a cover plate on the crank side of the case and unbolting a bearing bracket, which carries integral with it the primary shaft roller bearing; the gear on the intermediate shaft and the pinion on the primary shaft (both having taper fits) can be easily pulled from their shafts and a set of different ratio substituted. By this arrangement the pumping speed can be varied to suit different wells and different conditions and still maintain the most efficient speed of the motive unit.

A sprocket may be mounted on the final shaft to drive a hoist for cleaning, swabbing, bailing or pulling rods and tubing.

The unit is totally enclosed in a grey cast iron case, the gears being completely protected from the abrasive action of dust and grit. Gears run continuously in oil and the roller bearings

A Poor Gamble

Are you playing a 350 to 1 shot?



AN average well of three thousand-foot depth costs approximately Thirty Thousand Dollars.

A Zero Hour Electric Bomb costs Eighty-Five Dollars.

Such a well costs *three hundred and fifty times* the cost of a Zero Hour Electric Bomb.

The protection in shooting afforded by a Zero Hour Electric Bomb costs only twenty-eight one-hundredths of *one per cent* of the cost of the well—an exceedingly cheap rate of insurance.

What well owner can afford to take such a long odds gamble—risk three hundred and fifty dollars to save one.

Can YOU afford to take a 350 to 1 chance with your well at stake?

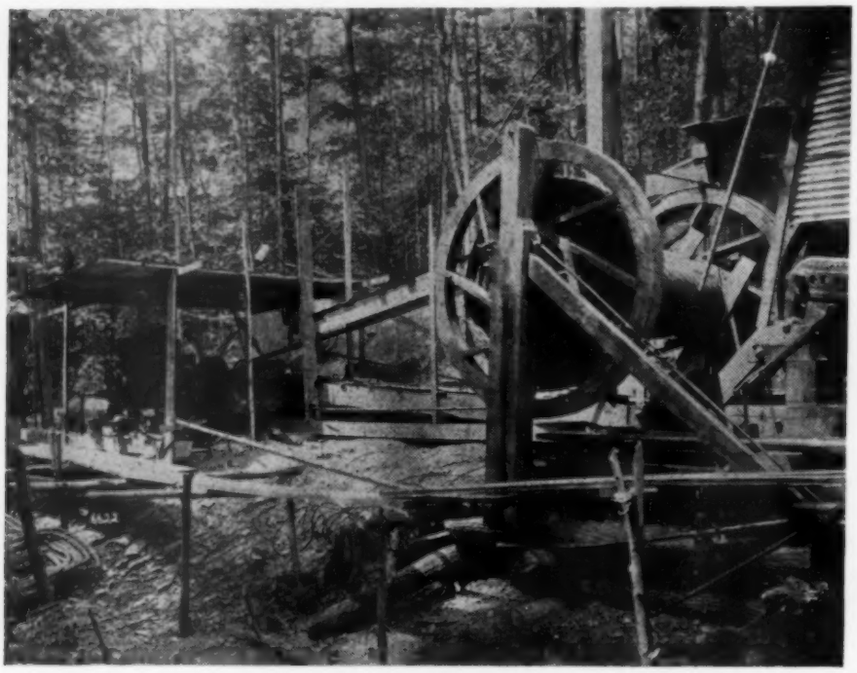
In the past twenty-six months over 250 companies and individual operators in eight oil producing states and several foreign fields have shot over 2,500 Zero Hour Electric Bombs. They depended on Zero Hour protection and were not disappointed.

ZERO HOUR TORPEDO CO.
710 Cosden Building, Tulsa, Oklahoma
Day Phone 2-9612
Night Phones 3-1775—3-7650—2-6097—7773
Panhandle Representative:
B. A. McCall, P. O. Box 336, Borger, Texas
Phone 110

Safety—
When printed instructions, furnished with each bomb, are carefully followed, there is no chance for injury to shooter by premature explosion.

Insist on your shooter using Zero Hour Electric Bombs. They can be secured through all principal torpedo companies. If your shooter cannot furnish them, let us know and we will arrange to supply you.

ZERO HOUR
Electric Bomb



Waukesha Drilling Unit for Cable Tools

are lubricated by a positive splash system. Anti-friction roller bearings are used throughout the unit.

The R. D. Nuttall Company has also developed a new single reduction pump gear unit with unusual features. It is called the OP-6. Outstanding is the use of single helical gears and Timken Tapered Roller Bearings on all shafts. Single helical gears have been very successful in industrial applications, but this is their first application to oil field service.

Further information on either of the above products will be sent on request, by the R. D. Nuttall Company, McCandless and Harrison Avenue, Pittsburgh, Pa.

Waukesha Cable Tool Drilling Unit

Waukesha Motor Company, Waukesha, Wisconsin, announces the introduction of a cable tool drilling unit, after much experimenting in Oklahoma and Pennsylvania.

An Oil Well Supply "Imperial" Oil Bath Reversible Clutch is provided with this unit. This was designed specially for use with the outfit and has a single lever control. The pulley face is 16 inches and the diameter 20 inches.

A Waukesha completely enclosed reduction gear giving 3.24 to 1 reduction ratio is standard equipment. The gears are all cut—not cast—are fully lubricated and all the shafts are carried on anti-friction ball or roller bearings. A twin disc drive plate clutch completely enclosed and located between the reduction gear and the engine flywheel is provided to disconnect the reversing clutch when starting the engine. This clutch is mounted in the engine flywheel direct instead of through the engine crankshaft.

Unusually strong "H" section rolled steel beams form the base for the unit. This construction holds all parts rigidly in line and facilitates skidding the unit from a truck into place. The over all length of the frame is 12 feet and of the unit 14 feet 4⅜ inches; while the over-all height is 5 feet 4 3-16 inches and the width of the frame is 37 inches. The size of the unit, as noted above, and its complete weight of 6700 pounds make it a convenient 3½ ton truck load, and, therefore, unusually portable.

Water from a 30-barrel storage tank has been used in most installations. This water is circulated by a centrifugal pump mounted on the engine. A radiator and fan can be supplied when desired. This is recommended where the cooling water is scarce or where the supply is known to be alkaline.

The engine is provided with a 2½-inch belt pulley, running at engine speed, from which a blower for a forge can be operated conveniently. An electric generator and electric starter can also be provided at slight additional cost.

Eighty horsepower, 4-cylinder, heavy duty type. Operates on either gas or gasoline. Extra heavy crankshaft (3¾-inch diameter) mounted on five main bearings.

"Duplex" fresh oil lubricating system, consisting of forced lubrication to main, connecting rod and camshaft bearings, and an auxiliary fresh oil supply direct to the cylinders. This lubricating system insures thorough lubrication of cylinder walls and wrist pins with grit-free oil, and permits 24 hour continous service.

Maximum fuel economy and best performance insured by Waukesha "Ricardo" High Compression "Non-pinging" heads. Cylinders—cast in pairs—easily removable from crankcase. Cylinder heads removable.

Other features are: Waukesha patented built-in governor; American Bosch magneto with impulse starter; Stromberg carburetor; double air cleaner on air intake, and automatically controlling temperature of mixture in manifold.

Further information can be obtained from the Waukesha Motor Company, Waukesha, Wisconsin.

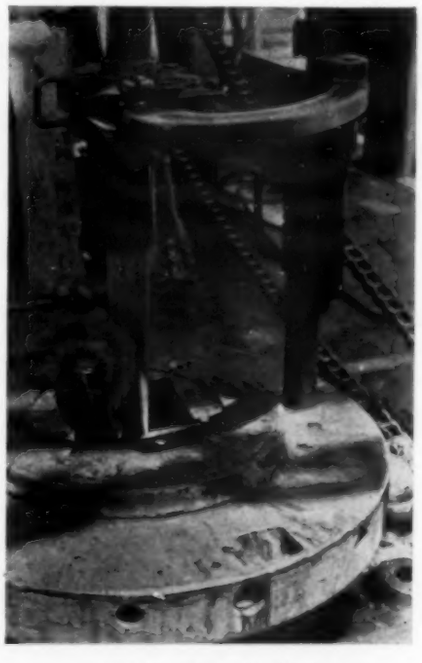
Wilson Go-Round Tong Uses Power From Rotary Table

Oil well drillers are interested in the introduction of the new Wilson Go-Round Tong which permits the use of power from the rotary table in making and breaking connections of drill pipe and casing.

The tong is quite similar to other Wilson tongs with the exception that the lever is replaced by a curved lever which is attached to an upright post that fits in the rotary table. This post can be instantly removed when desired. In making connections of drill pipe the post is set on the table and the pipe is tonged similar to regular tonging. Then the rotary table is revolved.

All parts of the Go-Round Tong are interchangeable and the lever will fit the heads or jaws of either rotary or standard tongs, making it adaptable to a wide variety of uses. The new Go-Round Tongs are now available in any size desired.

More data will be furnished, upon request, by Wilson and Willard Manufacturing Company, 2301 East Vernon Avenue, Los Angeles.



Wilson Go-Round Tong

1ST NATIONAL BANK FORT WORTH, TEX.

Keeping Step With the Petroleum Industry

Among the officers and directors of this Bank are business men closely allied with the Oil Industry. This personal contact assures an adequate understanding of the financial needs of the business. At the same time providing a safeguard for sound business conduct.

Capital $1,000,000.00 **Surplus $800,000.00**

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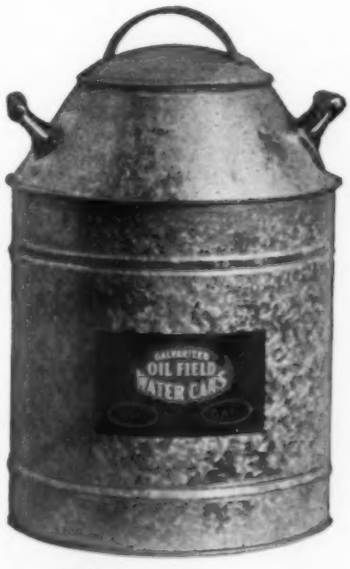


The GOTT WATER CAN

When the Best Costs No More, Why Have Less Than the Best?

The Gott Water Can should be a part of your regular drilling equipment. Pure drinking water of an even temperature is an absolute necessity on every well.

The Gott Water Can insures a perfect keeping of your water supply, made of galvanized metal in one and a half, three, five and t en gallon sizes, the most popular can in the field. It may be had at all supply stores.

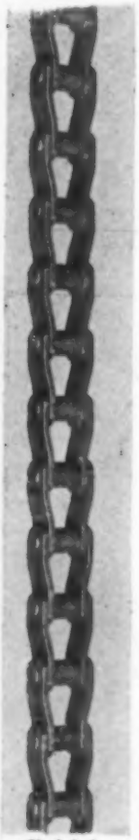
THE H. P. GOTT MFG. CO.
WINFIELD, KANS.

Assembly of Chain Belt Chain

Chain Belt Makes A. P. I. Specification Chains

Two new oil well chains, Rex Deep Well Chabelco 1240- D. W. 4 and 1030-D. W. 3 with ground pins, ground bushings and high tensile strength have recently been put on the market by the Chain Belt Company, Milwaukee, Wisconsin.

The rated strength of these chains is 90,000 pounds for the 1240-D, W. 4 and 45,000 pounds for the 1030-D. W. 3. It is also expected that the life of the chain will be greatly increased, as they are made with a tighter all around fit, close pitch accuracy and smaller clearances between pins, bushings and rollers due to the smoothly finished surfaces.



Chainbelt Chain

Both chains meet the specifications of the American Petroleum Institute—1240-D. D. 4 corresponding to A. P. I 4 and 1030-D. W. 3, being an A. P. I-3 chain.

The specifications of the 1030-D. W. 3 and 1240-D. W. 4 chains are as follows:

The sidebars are made from high carbon, heat treated steel; the forged pins of alloy, heat treated steel, are ground by centerless . grinding; the rollers are drawn seamless tubing, high carbon heat treated, and the bushings are drawn seamless tubing, ground and case hardened. These chains replace those of the same number formerly made by Chain Belt Company.

The most important change is the grinding of the pins and bushings.

The bushings are seamless drawn steel tubings. The ground pins working in the seamless bushings bring together two very smooth surfaces. The natural action of the chain is freer, friction is reduced, and the uniform high strength and the wearing qualities of the chain are increased. The increased flexibility also makes the chain much easier to handle in fitting it to the sprockets.

The pins are also smoothly forged and finished. This method produces pins with smooth snug fitting heads, free from all fins and projections.

More information will be supplied by the company on request.

"Ideco" Bull Hoist Made for Heavy Service

The "Ideco" Bull Hoist, developed by the International Derrick and Equipment Company, Michigan and Buttles Avenues, Columbus, Ohio, was designed to operate under the most severe kinds of bull wheel service, and in actual tests has fully come up to expectations, according to its manufacturers.

The small diameter of the brake wheel, namely 24 inches, with its compact design enables the operator to effect many economies by using the bull hoist.

The bull hoist is air cooled. Incorporated in its construction is a compensating feature which allows it to expand and contract freely under the action of frictional heat.

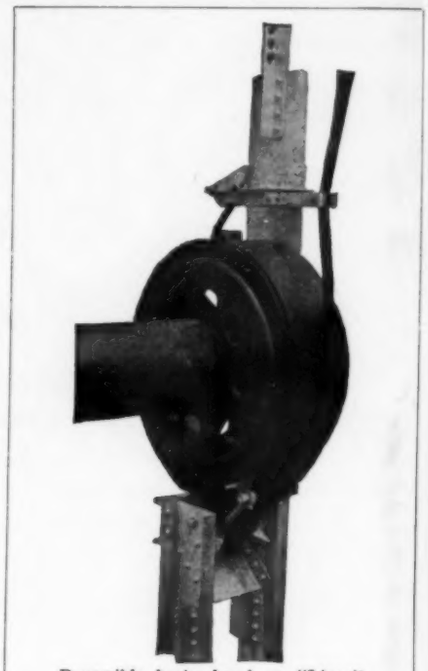
The brake drum is a solid gray iron casting. The brake surface is accurately machined, as is the entire brake wheel. If in the course of many years the drum casing should become worn, it can easily be replaced quickly in the field by the removal of eight machine bolts.

Johns-Manville folded and compressed asbestos brake lining is used in the construction of the brake band. Brass wire heat conductors are interwoven throughout the band.

Another feature of this design is that the brake band has been made so that it can be reversed to compensate for wear. It has been found that brake bands will wear about 50 per cent faster at one end than at the other and to meet this, the reversible feature has been incorporated.

Gudgeons are of the removable type. The tug wheel is eight feet in diameter located on the shaft in the same manner as on the ordinary bull wheel.

These wheels are furnished in standard lengths, namely 14 feet six inches, shoulder to shoulder of gudgeons. The shafts are furnished in either 16-inch or 18-inch diameter with three-eighths of one-half-inch wall. Thicker walls than these together with variations in the shaft length can be furnished upon specification.



Reversible brake band on "Ideco" Bull Hoist

More detailed information can be had by requesting the same from the company.

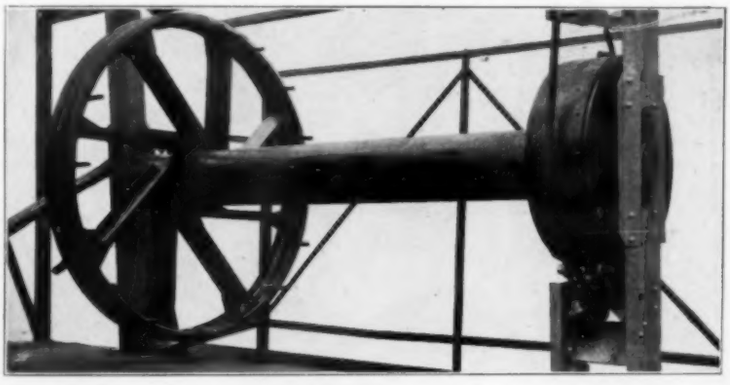
Portable Drilling Outfit for Core and Test Work

A new type rotary drilling outfit has been invented by R. Lyle Brace, Spokane, Washington. The outfit is a complete oil-well drilling unit mounted on a four-ton truck, designed so that it can be moved from one location to another and set up in about 24 hours. Power is furnished by a 55 horsepower motor for drilling, and a 44 horsepower motor for water circulation.

The special manner of mounting the outfit has been patented as has the form of the drill and the method of using it.

This entire outfit is designed for core drilling and special formation testing work.

Further information may be secured by writing the inventor.



"Ideco" Bull Hoist

Compendium

On the pages which follow are illustrated and described some few of those many products of famous manufacturers of which every Frick-Reid Store is a compendium.

FRICK-REID SUPPLY CO.

J & L
TUBULAR PRODUCTS

CASING TUBING
DRIVE PIPE ROTARY DRILL PIPE
LINE PIPE

Standard Pipe • Extra Strong and Double Extra Strong Pipe

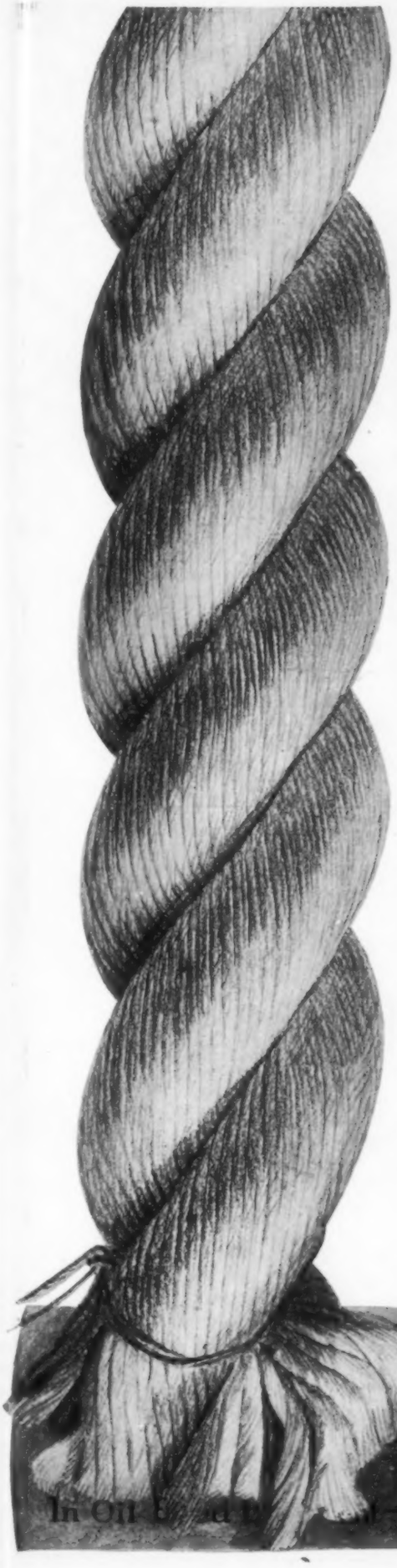
With every process of manufacture from ore to finished product under one control, a uniformly high quality is maintained to meet the exacting requirements of modern drilling.

Each piece of J & L Pipe is rigidly tested and inspected. The name **Jones & Laughlin** is rolled in every length as your protection against substitution and our signature on a product of which we are justly proud.

Jones & Laughlin Steel Corporation

American Iron and Steel Works

Pittsburgh



All-Manila Bull Rope

made by

WHITLOCK

THIS 100% Pure Manila Bull Rope is greatly superior to the average line offered for this service. It is not to be confused with inferior types or so-called "mixed" Bull Ropes.

Because 100% Pure Manila fibre is used in its manufacture, this Bull Rope is stronger, tougher, more pliable, and consequently will last longer. It is less affected by the elements and has a minimum amount of stretch,—this latter point being very essential in the case of a Bull Rope, as it does away with frequent shortening.

Though it contains a suitable quantity of high grade lubricant to keep it sufficiently pliable and in good serviceable condition in any climate or weather, this Bull Rope contains no "loading" to add unnecessarily to its weight.

These factors insure maximum yardage, thereby making the cost per foot actually lower than that of inferior Bull Rope selling for a lower price per pound.

Investigation will confirm the fact that this All-Manila Bull Rope is held in high regard by practical oil men of wide experience.

A trial will readily prove its superiority and economy.

Apply at any Frick-Reid Store for All-Manila Bull Rope, Whitlock Drilling Cable—The Cable That Drills Ahead—or other cordage requirements.

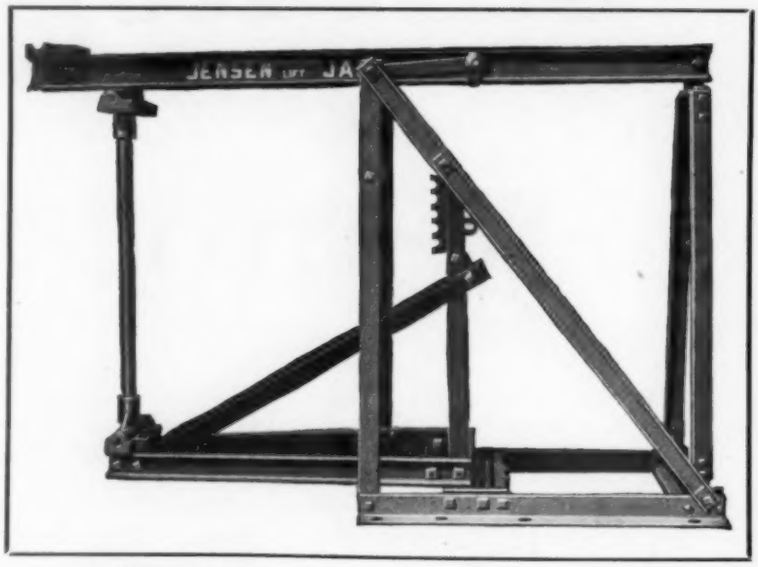
Frick-Reid Supply Co.

TULSA, OKLA. PITTSBURGH, PA.

West of the Mississippi—Stores Everywhere

In Oil [illegible] the most HUMAN Organization in America

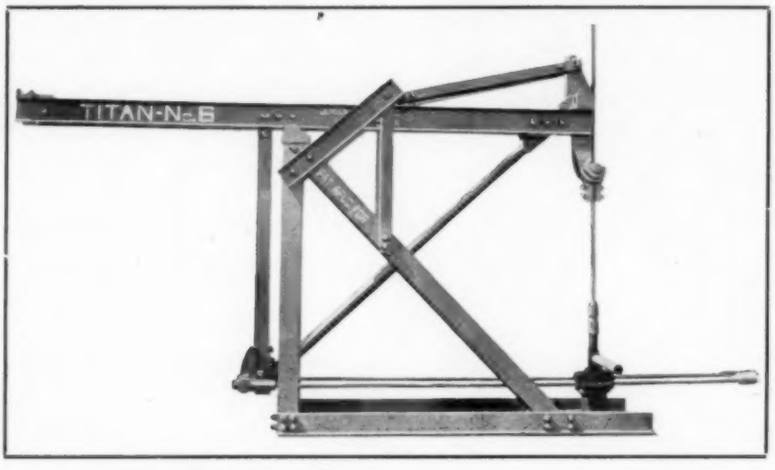
JENSEN
Straight Lift Jacks



THIS is our improved Model, very similar to our Jensen Jack Regular, except for its heavier construction. It has huge oil pockets and heavy bearings, the pitman is built with safety design, the frame is rigid, with ample base, and the V is of self-supporting type. It is ideally adapted for continuous pumping. Its absolutely straight lift, characteristic of all Jensen Jacks, leads logically to less rod trouble, less packing trouble, and the absolute elimination of stuffing box trouble. It is removed from the well for pulling rods or tubing by the simple expedient of taking out ONE bolt. Catalog free on request, describing this, and all other Jensen Jacks.

The Jensen Straight Lift Jack

THIS is our TITAN Straight Lift Under Pull Jack, with six and one-half feet of Straight Line Motion and a Working Stroke of five feet. A piece of equipment to gladden the heart of any field man. The construction is simple, but extremely sturdy. The action is smooth, with no critical point of vibration to cause rod trouble or stuffing box wear. Carries the ironclad Jensen guarantee. Complete information about this and other Jensen Jacks at any Frick-Reid Store. Catalog on request.



For Sale By

FRICK-REID SUPPLY CO.

West of the Mississippi, Stores Everywhere

Manufactured by

JENSEN BROTHERS MFG. CO.

Nowata, Oklahoma

REID GAS 4 CYCLE ENGINES

Features

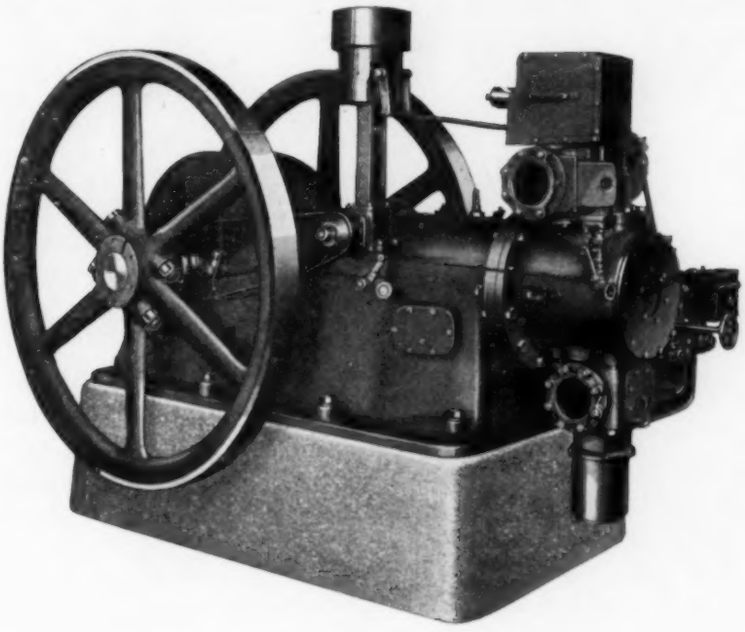
This engine is built in two sizes—45 H.P. and 65 H.P.

It is a slow speed heavy duty engine built for work which requires unfaltering power.

The construction of the bed and cylinder has the important advantage that no gaskets are required in the combustion chamber.

The valve mechanism provides correct proportional mixtures of gas and air throughout the entire load range—an important advantage contributing to the low fuel consumption characteristic of the engine.

Write for descriptive bulletin.



Powerful
Reliable
Dependable

JOSEPH REID GAS ENGINE COMPANY,
Oil City, Pennsylvania, U. S. A.

BRANCHES AND AGENCIES: Marietta, Ohio; Logan, Ohio; Newark, Ohio; Shreveport, La.; Charleston, W. Va.; R. B. Moore, Bolivar, N. Y.; Frick & Lindsay Co., Bradford, Penna., and Kentucky Distributors; S. R. Shoup, 724 Board of Trade Bldg., Los Angeles, Cal.; Frick-Reid Supply Company, Tulsa, Okla., and Branches, Distributors for Oklahoma, Kansas, Texas, Arkansas and Wyoming.

BRANCH SHOP, TULSA, OKLA.

EXPORT SALES REPRESENTATIVE: Oil Field Equipment Co., Inc., 30 Church St., New York City

REID OIL FIELD MACHINERY

Of Good Repute Even On Pithole's Hills

Many and varied are the stories of Pithole, Pa., of the cradle days of the oil industry, but few are the tales of present day Pithole, the place of barrenness, of briar patches, rocks, cellar holes filled up and overgrown with thornberry bushes, and briars. An ideal place for rabbits, and that's all; but thereby hinges this tale.

A morning's hunt around these old cellar holes had yielded three rabbits and two misses, and I sat in the lee of the big church on the hill eating my lunch and trying to picture Pithole as it was.

From around the corner another hunter approached. He carefully removed the shells from his double-barrel and set the open gun against the corner of the church. I noticed this safety habit of his instantly, and I was also impressed by the name "Parker Bros." on the lock-plate of the gun. I always am. The bulging back of his hunting coat substantiated my first impression. Here was an interesting man.

"Wonderful place this," remarked the stranger, with a sweep of his hand towards the valley. "I always try to visit Pithole when I return from the West, about every three years."

"Work in the West?" I asked.

"Yes," he replied. "Been drilling out there for ten or twelve years in Texas, Oklahoma, Kansas and down to Mexico."

"The National Transit Pump & Machine Company, just over a few of those hills, in Oil City, has shipped a lot of their products into your territory since you first went out there," I volunteered. "Frick-Reid Supply Co. are their agents."

"Yes, I know," he replied, "and believe me Frick-Reid have it all over the other supply stores. When you go into a Frick-Reid store you see a real live bunch, and you can get the best of everything from a tack to a drilling outfit—any and everything you need in the oil fields."

"I warn you," I replied. "I write advertisements sometimes, and I might want to tell other people what you have just told me."

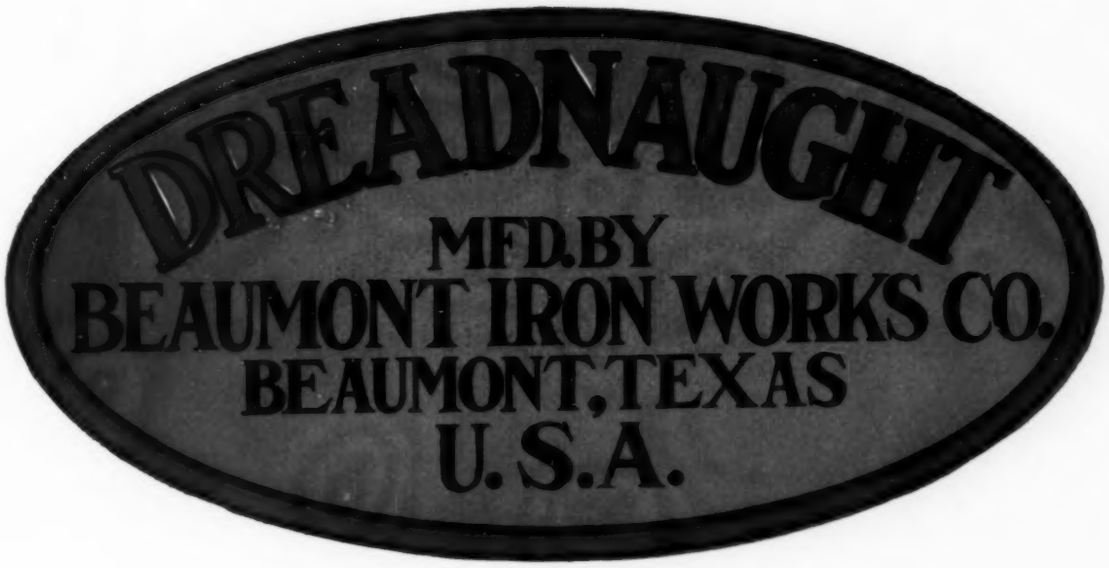
"Tell the World, if you want to," continues the stranger. "I know oil men in the West and I know the Frick-Reid Supply Co., and the closer you can bring the two together the better it will be for the industry."

So here you are.

NATIONAL TRANSIT
Pump & Machine Company

Oil City, Pa.

New York Philadelphia Pittsburgh Cleveland
Denver Houston Tulsa



This Seal Appears on All Genuine Dreadnaught Equipment, and is a Guarantee of Quality.

A TRADE MARK is more than a means of identification. It is a builder of confidence. It guides the man who seeks merchandise which has given him, or is known to have given others, unusual satisfaction.

This DREADNAUGHT Seal as an emblem of quality represents a great obligation, rigidly carried out. It is an inviolate pledge of fine materials, finished craftsmanship, utmost value. Its presence on equipment is a mark of distinction as eloquent as 'sterling' on silver service.

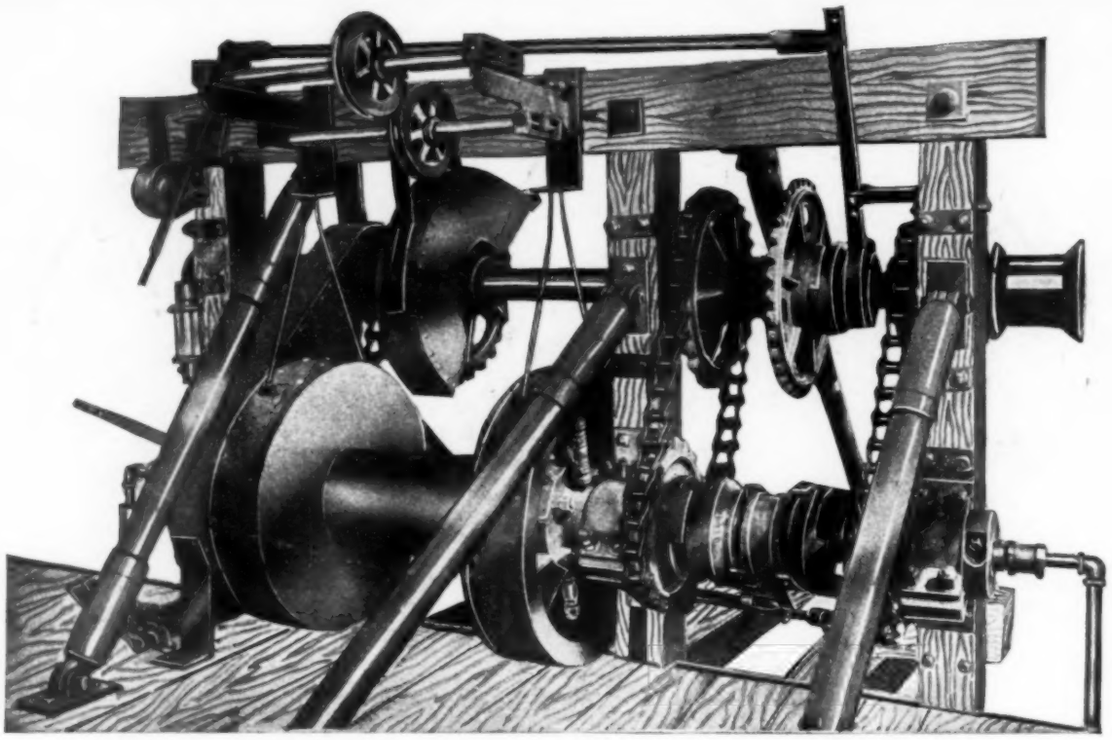
Look for this Seal.

Its use on the DREADNAUGHT Water Cooled Draw Works is significant.

BEAUMONT IRON WORKS CO.

BEAUMONT, TEXAS

We Favor The Standardization Program of The American Petroleum Institute



Dreadnaught No. 67 Heavy Duty Draw Works, Three Speed with Water Cooled Brakes

APPROPRIATELY the DREADNAUGHT Seal distinguishes this Heavy Duty, Three Speed Draw-Works as the ultimate attainment for deep rotary drilling. It incorporates the greatest single forward step ever made in the design of rotary hoists: Water Cooled Brakes! The system is simple, 100% effective, and patented. It assures uniform, effective brake action at all times and eliminates the danger of cracked flanges and excessive wear on brake linings.

Every part is over-size, over-strong and intensely developed over a long period of years. The user enjoys conveniences and facilities in operation as pronounced as those of a Packard over a flivver.

ASK THE MAN WHO RUNS ONE

Write for Complete Descriptive Literature, or ask at any Frick-Reid Store in the Oil Country

BEAUMONT IRON WORKS CO.

BEAUMONT, TEXAS

Frick-Reid Supply Company, Mid-Continent Distributor

We Favor The Standardization Program of The American Petroleum Institute

The Improved No. 1
RATIGAN BEAM HANGER

The old reliable Ratigan Beam Hanger, which is well known wherever oil wells are pumped, has been greatly improved during the past year.

In addition to being much heavier, it is now provided with a joint and separate cable holder which permits automatic adaption to every position of walking beam.

The No. 6 RATIGAN POLISH ROD GRIP

Embracing a big improvement in clamping cable —2 six-bolt clamps, with a clamping power equal to the Grip itself, replace the old babbitt sockets. However, Babbitt sockets will still be furnished where desired.

The No. 2B Heavy Ratigan Polish Rod Clamp With Tee Handle

formerly used as a "tool" by rod gangs is now being used in large quantities as a permanent clamp—one for each well.

Write for complete information on Ratigan Safety Devices.

J. P. RATIGAN

1213 Santa Fe Avenue
Los Angeles, Califorina

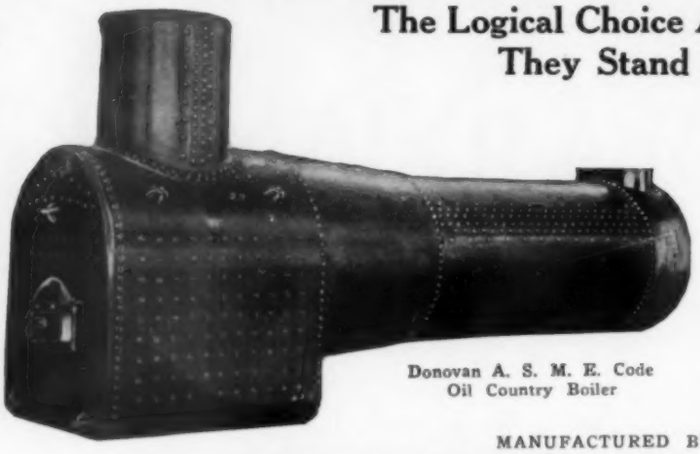
East of the Mississippi: Frick-Lindsay Company.

Mid-Continent & Rocky Mountain Fields: Frick-Reid Supply Company

Pacific Coast Fields: All Supply Houses.

Donovan Boilers are Consistently Good

The Logical Choice Always For Long Service
They Stand the Test of Time



Donovan A. S. M. E. Code
Oil Country Boiler

An 80 H. P. Donovan still in use today, drilled the world's deepest well—7756 feet. No repairs yet.

A 25 H. P. Donovan, after five years of constant use, drilled two wells, each 4600 feet deep. The boiler is still in use. Total repairs—one gas flue.

Two 25 H. P. Donovans, built in 1909, still in use, have drilled nearly 300,000 feet of hole each. Total repairs—one gas flue.

These are a few examples of the lasting power of DONOVANS. They are unusually good boilers and that is one reason you should use them.

MANUFACTURED BY

DONOVAN BOILER WORKS, INC.

PARKERSBURG, W. VA.

New York Office
30 CHURCH STREET

FRICK-REID SUPPLY COMPANY
MID-CONTINENT DISTRIBUTORS

Great Northern Tool & Supply Co.—Midland Iron Works
MONTANA DISTRIBUTORS

All Leading Supply Houses throughout the Eastern Fields handle

DONOVAN QUALITY PRODUCTS, Built to Last

"CAMEL HAIR" BELTING
REG. U.S. PAT. OFF.

Complement of Power

WEBSTER defines Complement as "that which is required to make perfect, or to complete a symmetrical whole; one of the mutually completing parts."

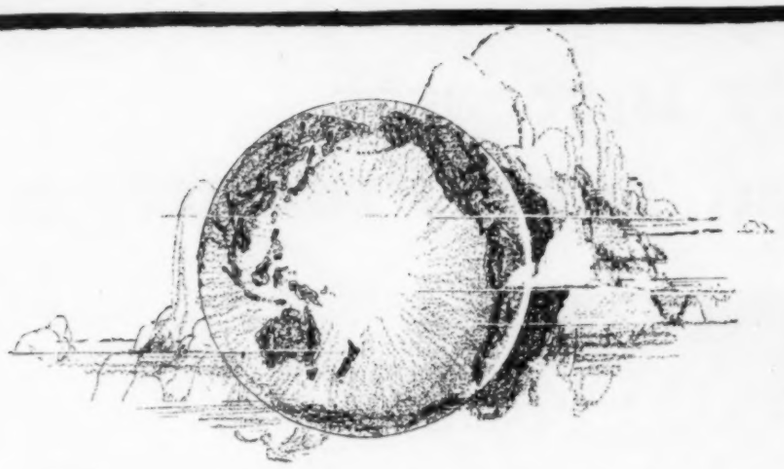
And so when we think of power, and the transmission of power, we naturally think of "Camel Hair" Belting. It is the complement of power—the ultimate in belting.

It is Nature's own product. In Animal hair Nature provides tensile strength, together with great elasticity, resiliency and durability. Into "Camel Hair" Belting are woven inevitably these qualities through the use of genuine Animal hair. It adds to the life of machinery by absorbing shocks and strains. It clings to the largest possible area of pulley surface. Climate, oil, salt water—nothing seems to affect it.

Sometimes "Camel Hair" Belting costs a little more in the beginning, but it is always economical in the end.

Made by
The Rossendale Reddaway
Belting & Hose Company
Newark, N. J.

Sold by
Frick-Reid Supply Co.
Tulsa, Okla., Pittsburgh, Pa.
West of the Mississippi, Store Everywhere



Every Oil Producing Country on the Globe uses Axelson Pumps.

Interchangeable Pumps for International Service

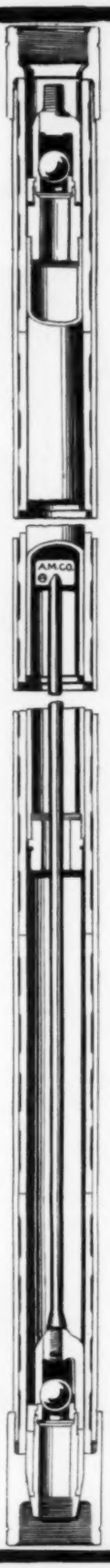
DURING the past thirty days export information in seven languages has been extended to scores of oil producers in twenty-two foreign countries—an example of the service we are rendering to oil operators seeking knowledge regarding improved Axelson pumping facilities.

Perhaps our Export Department can aid you also

AXELSON OIL WELL PUMPS

INTERCHANGEABLE PUMPS for INTERNATIONAL SERVICE

THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY



AXELITEMS

Axelson Pump parts being interchangeable permit easy assembly in the field, allowing quick removal of worn parts and insertion of new ones. To producers in remote fields this attractive feature saves an infinite amount of time.

Many shipments are made direct from Los Angeles Harbor, close to our factory, to remote oil fields. Direct shipment saves many weeks in time.

We manufacture a very efficient Stuffing Box—The Axelson. You will never experience leaks with this one.

Difficulty of Sand, and sand encountered in pumping wells, has brought about insistent need for a pump assembly permitting of the placing of valves more closely together, reducing the area in which gas can form. The new Axelson Barnwell Plunger meets this need. The plunger is open at the top and the working valve is placed at the bottom of the plunger close to the standing valve. Ask for new descriptive folder.

The famous Axelson Vanishing Thread overcomes frequent rod breaks. The novel design of this thread permits a tapered pin. The pin becomes larger as it approaches the shoulder, thus giving greatest amount of metal at the point of strain.

Ask about the new Axelson Standing Valve Puller.

AXELSON MACHINE COMPANY

P. O. Box 337, Los Angeles. Tulsa St. Louis New York City

Mid-Continent Distributors: Frick-Reid Supply Company
Eastern Distributors: Frick & Lindsay Company

Say you saw it in The OIL WEEKLY

It Greatly Increases Daily and Total Production

HERE is a Hydraulic Unit that will pump the capacity of your well—any well—and do it with 25,000 pump strokes per day LESS than on the beam.

By keeping the bottom of the hole free from surplus oil, it permits the sand to drain freely. The logical result is larger daily production and a larger total recovery of oil.

Through larger daily production—and remember this is not at the expense of total production—almost every one of these units pays for itself in less than thirty days.

Details about this remarkable Pumping Unit may be had at any Frick-Reid Store, or direct from our Tulsa office.

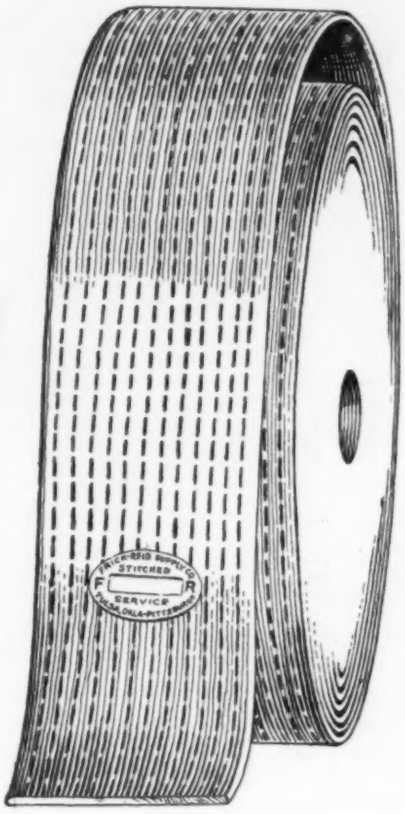
Made in California by the

Pacific Oil Tool Company

Sold through all their stores by the

FRICK-REID SUPPLY Co.

Tulsa, Okla.—Pittsburg, Pa.



Rubber Belting De Luxe

FRICK-REID Service Rubber Belting has established such records for itself as to make it seem to "old timers" like absolute folly to buy anything less worthy. It may be had for both drilling and pumping, in either stitched or friction type.

The duck in its composition is woven from the finest cotton money will buy, and no automobile tire has finer rubber on its tread than the new rubber used in Frick-Reid Service Belting.

Strong, pliable, without tendency to stretch or bootleg under any conditions. We recommend it unconditionally and it may be had at all Frick-Reid Stores.

FRICK-REID SERVICE BELTING

Famous F-R Lines

DARLING Drilling and Gate Valves.

JOHNS-MANVILLE Asbestos Packings.

PIPE: Seamless and Lapwelded Casing, Tubing, Drill and Line Pipe. Field stocks at all stores, stocks for direct shipment at Pittsburgh, St. Louis and Memphis.

ROEBLING WIRE, Drilling, Casing and Sand Lines—Electric and Gas Welding Wire.

WALWORTH Fittings.

CARBIC Acetylene Gas Generators, Welding Apparatus and Carbic Cakes.

DARCOVA Valve Cups.

FRICK-REID Electric Turbine Generators.

HUGHES Rock Bits and Tool Joints.

PETERS Tank Baffles.

WARREN Steam Drilling and Pumping Engines.

WILSON Elevators and Underreamers.

This Equipment carried in all Frick-Reid store stocks together with a large line of general and miscellaneous oil well supplies.

Merchants Extraordinary

WHEREVER the Oil Man pushes the frontier of his Empire of Industry, the Supply Store opens its doors simultaneously, with the omnipotence of Fate, and without regard for embargoes, fire, pestilence or famine.

The Oil Man takes it as a matter of course, even as each of us opens our morning paper to glance over the news of the world without thought of the far-flung machinery of its gathering.

We are proud to be of these Merchants Extraordinary a strong chain of growing distinction. Our stores are the field posts of manufacturers whose very mention conjures visions of vast resources in men, money and experience.

But these manufacturers are concerned more directly with problems of manufacture than with the equally numerous and knotty phases of distribution. On the other hand, our major concern is distribution—how to meet the Oil Man's ideas of service.

Any Frick-Reid Store will give you the impression —and correctly so—that here is something more than a warehouse of supplies and equipment, however excellent.

This thought we want to leave with you: KNOW THE FRICK-REID STORE IN YOUR FIELD FOR THE SAME REASON YOU RECOGNIZE ANY OTHER FRIEND.

The foregoing pages are devoted to illustration and description of products of some few of those manufacturers we are proud to represent

WEST of the MISSISSIPPI STORES EVERYWHERE

EAST of the MISSISSIPPI FRICK & LINDSAY CO.

TULSA, OKLA.

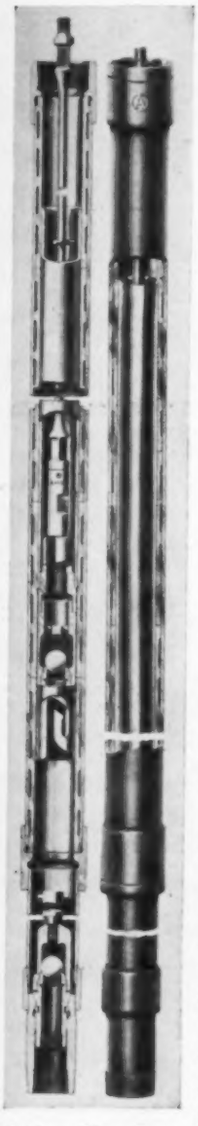
PITTSBURGH, PA.

FRICK-REID SUPPLY CO.

Axelson Engineers Develop New Equipment

Research on the part of the Axelson engineering staff has resulted in several items of new equipment of much interest to operators. All these tools have been used with success in California, and their application is now extending to other fields rapidly.

The problem of enlarging the opening in the standing valve where the ball and seat is located has been successfully overcome, it is stated, by the Axelson Super-size Standing Valve which is also adaptable to the working valve.



Axelson New Type Plunger

In this new valve the opening of the seat is greatly enlarged, giving a free and less restricted passageway for the oil which assures greatly increased production.

In a two-inch pump the increase in area is 71 per cent in a two and one-half-inch 89 per cent, in a three-inch 44 per cent and in a four-inch size 65 per cent. These are the increases of the super-size diameter over standard size openings.

The manufacturers issue the following points covering the new super-size valve: As the seat has a large opening it affords greater bearing surface for the ball which appreciably increases the life of both the ball and seat. The increased size of the seat prevents its own expansion and thus maintains a true riding surface for the ball. Possibility of abuse upon or breaking up of the seat is therefore greatly minimized.

Each seat is ground inside and out and finished to a slight press fit in the recess of the standing valve cage. Each ball is ground to fit its individual seat.

The entire unit consists of a standing valve body, a standing valve cage, seat and ball, all of which are of special size.

New Type Plunger

The difficulty of gas encountered in pumping wells has brought about an insistent need for a pump assembly whereby the valves could be placed more closely together, thereby reducing the area in which the gas can form.

This matter has been given considerable attention by the Axelson Machine Company with the result that a new type of plunger has been designed to overcome the gas problem in wells where it is peculiarly present and to also eliminate sand troubles to a great extent.

Announcement is made of a new fitting to be known as the Barnwell Plunger, by the Axelson Machine Company. This type of plunger is open at the top, having no valve at the top of the pump. The working valve is placed at the bottom of the plunger close to the sanding valve. In assembling a pump with a Barnwell plunger the sucker rod enters the plunger and reciprocates the plunger by a bottom connection.

By placing the standing valve at the bottom of the plunger the area or displacement between the standing valve and working valve is said to be so small that there is little opportunity for gas to form a pocket.

The edge of the plunger is internally beveled to an acute edge. This permits of a slight expansion of the plunger as it raises which gives a perfect fitting surface, forming a wiping edge that removes all sand from the liners and thus prevents abrasion, it is stated.

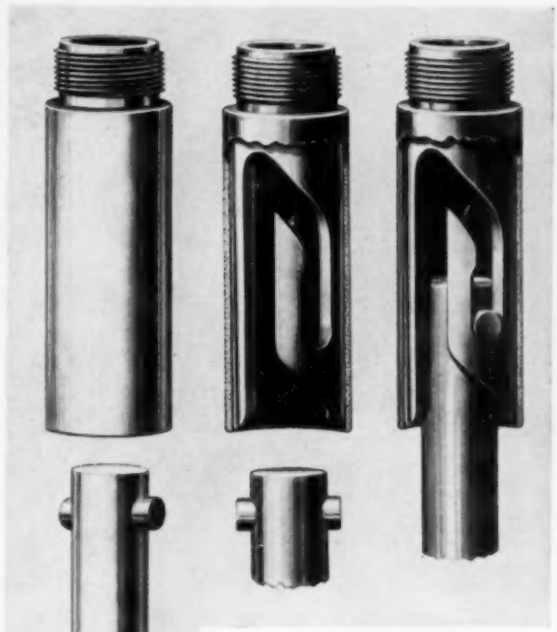
A further claim is that the friction is reduced on the downstroke. The plunger in being manufactured in two-inch, two and one-half-inch, three-inch and four-inch sizes.

Standing Valve Puller

The Axelson Standing Valve Puller permits pulling of the standing valve without the use of a pulling rod.

This valve puller consists of two parts—a pin which connects to the standing valve cage and a bushing which is screwed into the lower end of the plunger

Axelson Super-size Standing Valve



Axelson Valve Puller

assembly and which in turn is actuated by the sucker rod.

When it is desired to pick up the standing Valve with this puller the sucker rods are lowered until the shoulder in the bushing touches the flat top of the pin. This pin has two projections which are automatically guided to the top of the open vertical channels of the descending bushings.

By the mere turning of the sucker rods to the right and pulling up, the bushing revolves slightly so that the projections on the pin enter diagonal channels which terminate, making shoulders that engage the projections on the pin.

It is stated that the projections on the pin are so spaced that the flat top of the pin engages with the shoulders in the bushing before they reach the top of the open vertical channels. This, it is claimed, prevents the possibility of the projections being sheared off.

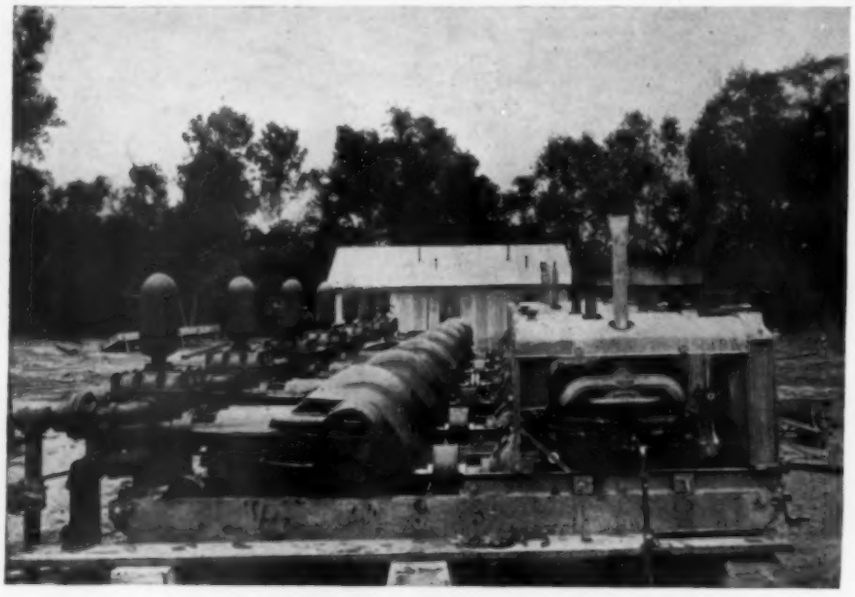
A unique feature of the standing valve puller is the means of preventing accidental release. Two lugs on the slightly resilient prongs of the bushing form a restricted passage for the projections on the pin, insuring against accidental disengagement.

After the standing valve has been lowered into place dis-engagement is effected automatically by simply lifting the rods and pumping can then be resumed.

Midco Pump

The Midco pump was designed for use in nominal capacity wells.

Its installation does not require the pulling of tubing. The pump goes inside of the tubing and fits to the top of the old



Gaso Portable Pumping Plant

working barrel which was previously used in the well.

The pump is attached to the sucker rod and is lowered to the bottom of the tubing at which point the tapered standing valve body of the Midco pump engages with and tightly seats over the edge of the old working barrel (or the edge of the top belled liner, if liners were used in the original pump) so that no fluid can escape to the outside.

In the operation of this new type of pump a ground and polished cast-iron plunger reciprocates within a steel barrel which has been machined.

When the sucker rods are pulled they lift the entire pump, disengaging from the top of the old or worn out working barrel that was originally installed.

It is designed to fit into the top of a two-inch working barrel. The maximum working stroke is 33 inches, it is stated. The manufacturers are recommending this new type of pump for service in wells where the production of the well has dropped and where the operator desires an inexpensive pump to strip the well of its oil. In other words, the Midco has been designed to meet a specific need for a simple pump that will serve as a satisfactory substitute in those wells where a limited volume of oil exists or where a small capacity pump will produce all of the oil.

If, at any time, pressure or inflow increases the capacity of the well to a point where it is desirable to install a larger size working barrel, the Midco can be pulled and the working part of the larger size pump or barrel can replace it.

Literature on all these items may be obtained from Axelson Machine Company, P. O. Box 337, Los Angeles, California.

Gaso Introduces Portable Pumping Plant

In furtherance of its policy of offering pumping equipment for every oil industry need, the Gaso Pump & Burner Manufacturing Company introduced during the past year a complete portable pumping plant—the first of its kind to be offered to the oil industry. The plant is mounted either on a trailer, as shown in the illustration, or on skids.

This plant was developed in response to an actual demand on the part of the manufacturer's customers. It has however, met with a sale far exceeding that anticipated. Pipe line companies are using it extensively as a temporary pipe line pumping station. Production companies are using it for water supply in drilling operations, etc. And it is coming into general use for all kinds of temporary and semi-permanent pump station and booster service.

The pump was designed especially for this plant, and is of special interest in that it is the first worm-driven pump to be placed in oil industry service. Another interesting feature is that it is wholly self-lubricating, oil cups and holes, and grease cups having been eliminated, and all parts being oiled automatically from a large oil reservoir. The pump is a heavily constructed, double-acting type with interchangeable cylinder liners from 2½ to 5 inches, and 10-inch stroke, and with capacities from 45 pounds per hour at 800 pounds pressure to 250 pounds at 275 pounds pressure. Ring gear is of bronze and the driving worm of steel.

It is claimed that the heavy construction, perfect lubrication, and enclosed design, offering perfection from grit and dirt, render this type of pump durable and long lived. The worm drive has been found to promote smooth operation and to deliver the power practically without loss. The pump is direct connected to the 40 h. p. Buda Engine, through flexible coupling which compensates for any distortion.

The trailer furnished is of sturdy construction with extra large axles, Timkin Roller Bearings, and 48-inch 12-leaf Vanadium steel springs. Wheels are equipped with 36 by 5-inch "Hy-type" Firestone Cushion Tires. The outfit is designed to be transported at regular truck speed.

For further information and specifications, address the Gaso Pump and Burner Manufacturing Company, Tulsa, Oklahoma.

Martin-Loomis Recording Weight Indicator

The Martin-Loomis Automatic Recording Weight Indicator, made by the Loomis Oil Well Control Company, 568 East Willow Street, Long Beach, Calif., is among the scientific instruments perfected for use in connection with drilling for oil, recently.

In its operation it discloses to the driller and others interested the weight of the tools and drill pipe, etc., pulling on the hook, such weight being indicated on both the gauge and the chart on the clockwork recording instrument.

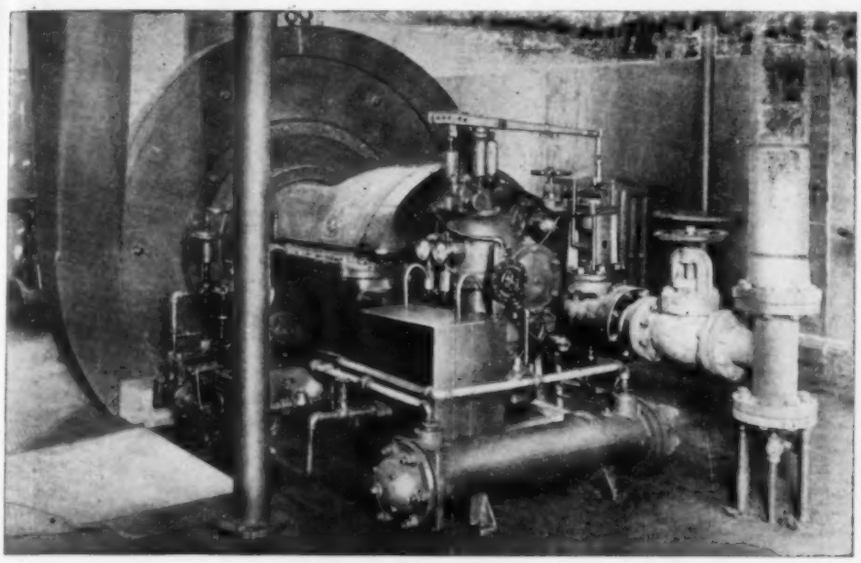
In construction and operation the weight indicator embraces a different application of the diaphragm principle, making it possible to construct without employing a single working part—except, possibly, the slight deflection of the diaphragm.

The cases are milled and finished to precision and accuracy in dimensions, especially those parts which force the deflection of exactly one-half inch in the cable to which it is attached.

The diaphragm apparatus is firmly attached to the cable (dead line), through the use of "U" bolts; the line passing over a grooved extended projection which presses against rubber diaphragm. The diaphragm is also protected from deterioration by a bronze plate which fits snugly over it. The hollow vessel formed by the concave bronze-back case and the diaphragm is filled with water, as is the small copper line leading from the appliance to the gauge and the recording instruments—about one quart of water being necessary. (Where cold weather threatens to freeze the water, alcohol or other anti-freeze solutions are added.

As previously stated, the appliance is attached to the dead line, and any weight on the hook causes the one-half inch deflection in the line to straighten slightly, thus forcing the diaphragm inward, resulting in pressure being exerted on the enclosed water, and the water under pressure activates the mechanism of the pressure gauge and the recording instruments. This briefly describes the simplicity of the construction and the working principle involved.

More information can be had from the company, on request.



General Electric Centrifugal Air Compressor

General Electric Improves Compressors

For the past three years, the General Electric Company has been conducting an intensive research program for the purpose of increasing the efficiency of the centrifugal compressor, with the result that 75 sizes have been redesigned with greatly improved efficiency. The machines are solidly built, and their operating records attest their reliabilty. All parts of the unit have been made accessible and proper lubrication of the bearings is assured by the oil pump which is supplied with all machines. This pump is driven from the main shaft of the unit.

The volume range of G-E compressors is 250 to 75,000 cu. ft. per minute. The 250 cu. ft. unit can be built for pressures of from 1 to 3¼ pounds. Higher pressures are practical where the volume rating is higher; in general, the pressure range extends to 35 pounds gauge.

The listed motor-driven compressors operate at 3600 r.p.m. Where 25-cycle power only is available, G-E herringbone gears are employed to increase the speed. Turbine-driven units are furnished with speeds of 3000 to 8000 r.p.m.

Has New Oil Field Motor

Improved General Electric oil field motors are described in a bulletin recently sent out by the General Electric Company, Schnectady, New York. Special features of the Type OMT 35/15 and 50/20 h. p. oil well pumping motors include:

Readily accessible slip-ring and brushes that require no lubrication. Low-current density in the rings keeps them exceptionally cool when the motor is running.

The outfit is equipped with dust-proof bearings with the oil-ring method of lubrication and a large oil reservoir.

High pulling speed is obtainable without the necessity of changing pulleys.

The stator and rotor each have only one winding, well ventilated, with form-wound coils and moisture-resisting insulation. The motor can be run at twice full speed without injury.

Primary and secondary leads are brought out to the conduit terminal boxes on the side of the frame. The boxes may be faced in any one of three directions.

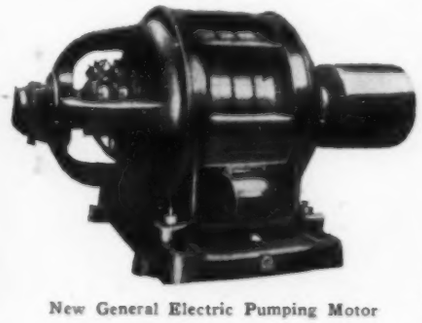
A standard adjustable sliding base furnishes convenient means of tightening the motor belt.

Mechanical construction of the outfit is of ample strength to withstand the heaviest duty.

When fully loaded, the maximum speeds of the motor are slightly below 1200 and 600 r. p. m. at 60 cycles, 440 volts. The motor can be operated on 50-cycle circuits. The low speed is used for pumping the well and high speed is used for pulling rods and tubing, bailing, swabbing, cleaning out, and other miscellaneous work necessary in maintaining the well as a producer.

This type motor can be overhauled at double the maximum normal speed without injury. It is said that the OMT motor will operate continuously at full load without exceeding 40 degrees C rise in any part and can be operated continuously at 125 per cent load for two hours. At high speed the motor has an especially high maximum torque of several hundred per cent of full load torque to enable them to meet all emergencies in pulling work.

Further information will be furnished by the company on request.

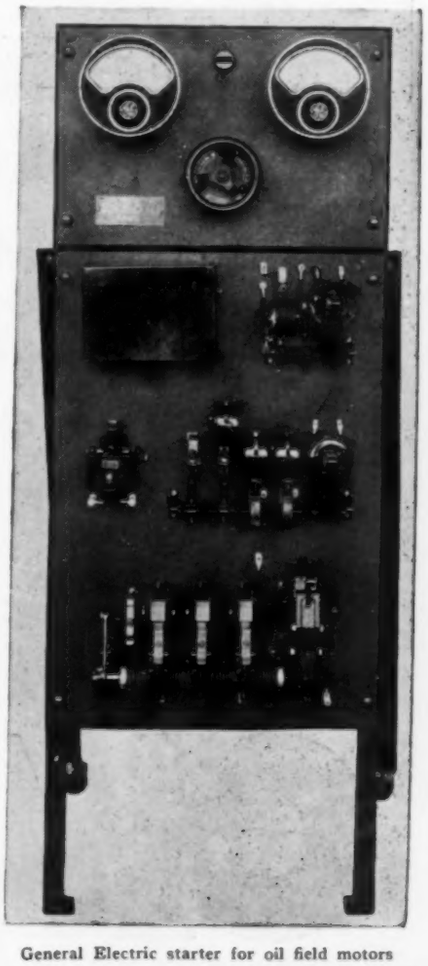


New General Electric Pumping Motor

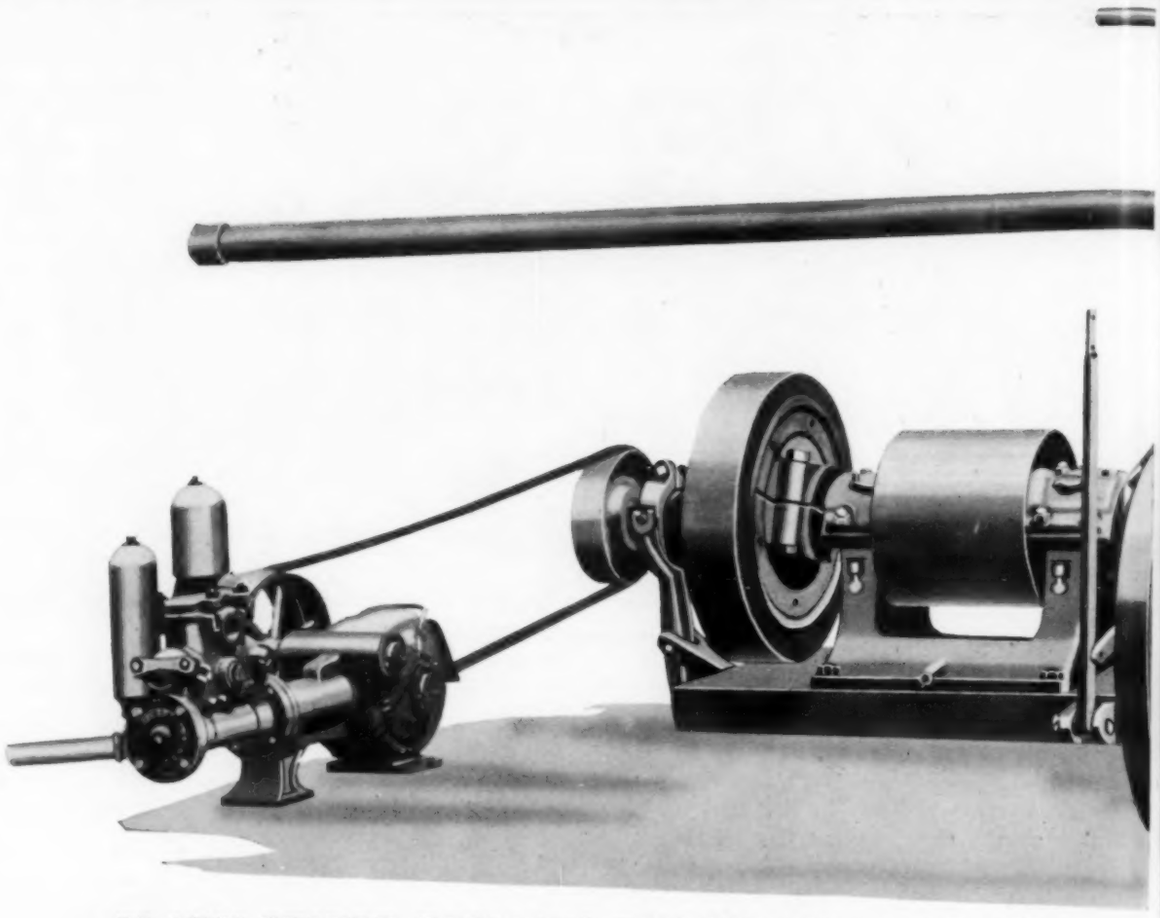
Starter For Oil Field Motors

Among the recent developments in industrial control are three new types of starter now being marketed by the General Electric Company. These are an enclosed magnetic switch for starting two- and three-phase alternating current motors, and two types of automatic starter for synchronous motors, one for full voltage starting and the other for reduced voltage starting.

The enclosed magnetic switch bears the designation CR-7006-D9 and is for use with two- and three-phase alternating current motors which can be thrown directly on the line in starting. This switch is also used to handle the primary circuit of a slip ring motor in conjunction with a secondary drum switch. The CR-7006-D9 was developed for starting larger motors than can be handled by the CR-7005 and CR-7006 types of switch now on the market. Overload protection is provided by means of a relay which follows very closely the heating cu.ves of the motor. This switch can be operated by a push button, pres-



General Electric starter for oil field motors



CLARK SENIOR DRILLING ENGINE—Showing Set-Up

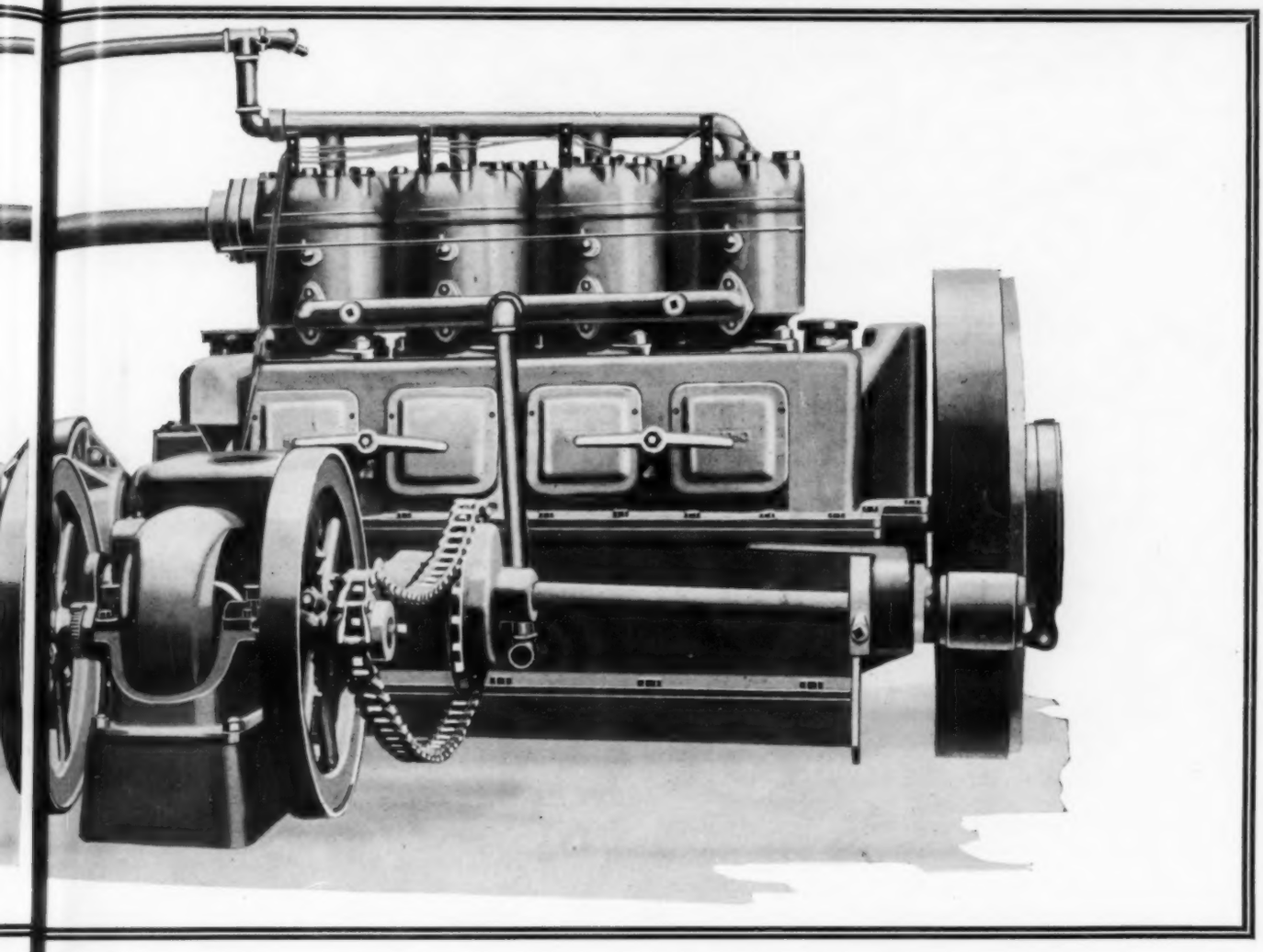
BUILT ON THE EXPER

Major F. J. Quinby—as proud of his Clark engines as we are proud of his patronage.

It Represents Today and Tomorrow in Drilling Efficiency

CLARK GAS

Say you saw it in The OIL WEEKLY



RENCE OF YESTERDAY

The Clark Clutch is made like a fine automobile

We pioneered the first Gas or Gasoline Engine designed exclusively for drilling purposes. Our patented clutch was developed after five years of tests and experimentation on the part of our Engineering Department. It represents today and tomorrow in drilling engine design. An idea of its superiority can be gained from the fact that it costs from four to seven times as much as any other clutch used in drilling engines.

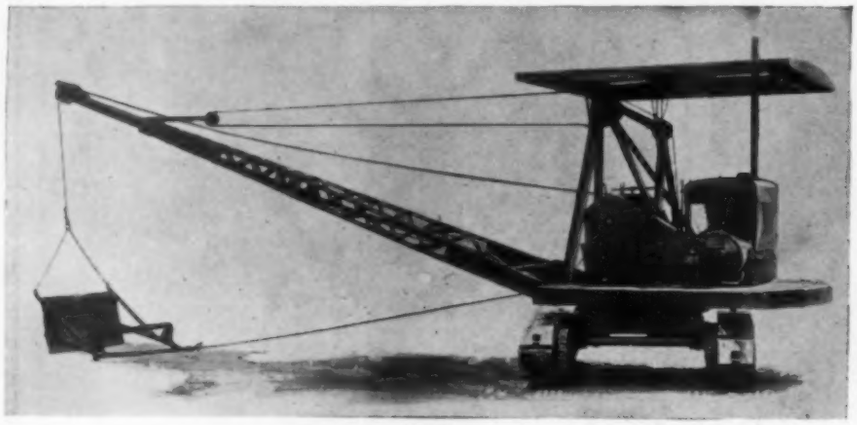
The Clark Clutch is supported with two bearings —one on each side of the pulley. Utmost flexibility from the engine for variable speeds and variable loads is a result of the Clark's light fly wheel compared to the power developed and the speed of the engine.

Clark engines put the "snap" into the drilling line that every old-timer considers essential to successful drilling.

CLARK BROS. COMPANY, OLEAN, N. Y.

AS ENGINES

Say you saw it in The OIL WEEKLY



Buckeye Back-Filler

sure governor, float switch or similar device and, when used as a primary switch for slip ring motors, a drum switch is the only accessory needed.

The new synchonous motor starters bear the numbers CR-7065 and CR-7061, for full and reduced voltage starting, respectively. Both starters are completely automatic and provide an easy and dependable means of starting synchronous motors. Special features are a temperature overload relay for close protection of the motor from overload, a definite time relay which determines the accelerating period during which the motor is connected to the compensator taps and a field controlling relay for closing the field contactor.

The CR-7065 starter is recommended for use with slow-speed synchronous motors driving pumps, compressors, and for other general applications. The CR-7061 starter is recommended for use with medium and high-speed synchronous motors for driving pumps, motor generators, etc.

Further information will be furnished by The General Electric Company, Schenectady, New York.

Buckeye Back-Filler Has Wide Use Range

Buckeye Traction Ditcher Company, Findlay, Ohio, has added to its line of ditching equipment, a back-filler, characterized by its extended range of usefulness.

The full circle swing permits a "reachability" unusual for this type of equipment. It is readily adaptable to other duties about the job, such as loading or unloading pipe from trucks, lowering them into place or, with a clam shell bucket, for handling materials. At the conclusion of the job, too, it is used for "cleaning up."

The revolving base consists of a heavily ribbed solid electric steel casting. This provides a rigid foundation for the power unit and the main machine assembly. Embodied in the base are steel annealed rollers operating on the machined face of the ring gear. The roller path is four feet in diameter and the rotating drive is through cup-and-cone reversing clutch controlled by a hand lever at the operator's platform.

The boom is of standard lattice type construction, 10 inches by 12 inches square at the center. The full boom length is 29 feet with an added four feet adjustable box channel extension which gives a maximum boom length of 33 feet. A unique feature of this unit is an 8-foot removable center section which permits a short boom length of 21 feet. The elevation of the boom is controlled by power through a worm-and-gear mechanism.

Full-length Alligator traction is provided. Electric cast steel treads are used, each 13 inches wide. Wheels are six feet eight inches long center to center of drive, sprockets with a bearing area of approximately 15 square feet. Steering is through independent clutches with automatic brakes controlled from the operator's platform. Road gauge is 58 inches between wheels or six feet outside the treads.

The road speed is approximately 1¾ miles per hour. The motor is a 4-cylinder, heavy tractor type, unit rated at 38 H.P. at 1200 r.p.m. Power take-off is through Twin Disc enclosed reduction unit and Twin Disc clutch. The vacuum system of fuel feed is employed.

All gears are cast steel with machine-cut teeth, heat-treated. Spur gear drives only are used in reversing operations. Shafting subject to the heavy loads of 1½-inch nickel chrome steel. For crane work safe-load capacity is 45,000 foot pounds or 3000 pounds at 15-foot radius and 1500 pounds at 30-foot radius. Standard equipment includes an all steel filling and dumping scraper 48 inches wide with cutters and rooters.

More information will be supplied by the company on request.

Buckeye Back-Filler utilized as pipe handling unit

Regan Production Booster Increases Output

The engineering department of the Regan Forge and Engineering Company quite some time ago began an intensive study of gas interference with a view of producing some device that would enforce separation of the gas, sand and oil and the result has been the perfection of a device to be known as the Regan Production Booster. It is a gas anchor improved, according to Regan officials, and will successfully overcome obstinate gas interference in any well.

It consists of three major parts, the Outer Barrel, the Inner Barrel and the Foot-Piece. The entire device which is no larger in diameter than the pump, and therefore can be run into any oil string where a working barrel will run, screws on to the end of the standing valve barrel.

The outer barrel is open at the top, with a large passageway for the free admittance of the fluid. The lower end is closed by a guide plug and the lower chamber serves as a trap for the sand. The inner barrel is screwed into a sub at the top, while the bottom is screwed into the guide plug. This inner barrel is slotted, there being ten ¼-inch slots anchored, and is equipped near the upper edge with three fins to serve as guides for the outer barrel, to keep the latter in alignment. These equalizing fins also aid in preventing the emulsification of oil and water. The oil spilling over the top of the outer barrel separates from the gas because the oil is heavier and the gas is lighter. This separation is further aided by the oil hitting the baffle fins, the splashing and agitation causing the gas to release from the oil. If any gas by chance goes down in the outer barrel with the oil, it passes through the slots and rises in the inner barrel and out again at the top. The oil goes downward and passes into the foot-piece and on up into the working barrel.

The entire installation of this Production Booster at the end of the pump is lowered to the oil level, to a sufficient depth so that the fluid will carry over the lip of the outer barrel and down into the oil chamber. Because of the fact that the Booster can be placed high up in the hole, less water is encountered, it is stated, and in many instances the device has eliminated water entirely.

Extending a Cordial Welcome
To Members
of the

AMERICAN PETROLEUM
INSTITUTE

CITIES SERVICE OILS
ONCE—ALWAYS

EMPIRE COMPANIES

Eliminates B.S. and

United SWAB Barrel

"One well producing 5bbls. daily, with a bad floating sand condition necessitating pulling twice a week, was increased to 20 bbls. daily and we pull it now once every month or six weeks"

STATEMENT OF THE PRODUCTION SUPT. OF ONE OF THE LARGEST PRODUCING COMPANIES

"Our tests were made on wells producing 38% of B.S. on which we used a treating compound to reduce our B.S. content to 7%; pipe line requirements 3%

With the United Swab Barrel we reduced B.S. to 2% and raised the gravity 3° without using any treating compound

It is now 70 days since this well was pulled."

another big producer made this statement after an exhaustive test

MANUFACTURED BY

United Iron Works

KANSAS CITY, MO.

Address all Correspondence

UNITED IRON WORKS

TULSA, OKLAHOMA

Sucker rod trouble

There is no "churning" in a United Swab Barrel—no B. S.

The fluid seal... exclusively used in this barrel... maintained at constant pressure ...eliminates "back slip"... gives full pumping efficiency with no churning, at any depth.

Because of its peculiar construction it handles "flour sand" conditions easily... saves frequent pulling, cutting labor and shut-down costs.

Hundreds of United Swab Barrels on wells accustomed to "pound down" without one single instance of sucker rod trouble.

Here's a barrel that has been tested on the toughest pumping jobs. And it is on the tough jobs that it has won its reputation by doing something that no other barrel has ever been able to do successfully.

The proof of its efficiency is a test on your toughest pumping job. Give the United Swab Barrel a chance to prove what it can do.

United SWAB Barrel

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United Iron Works

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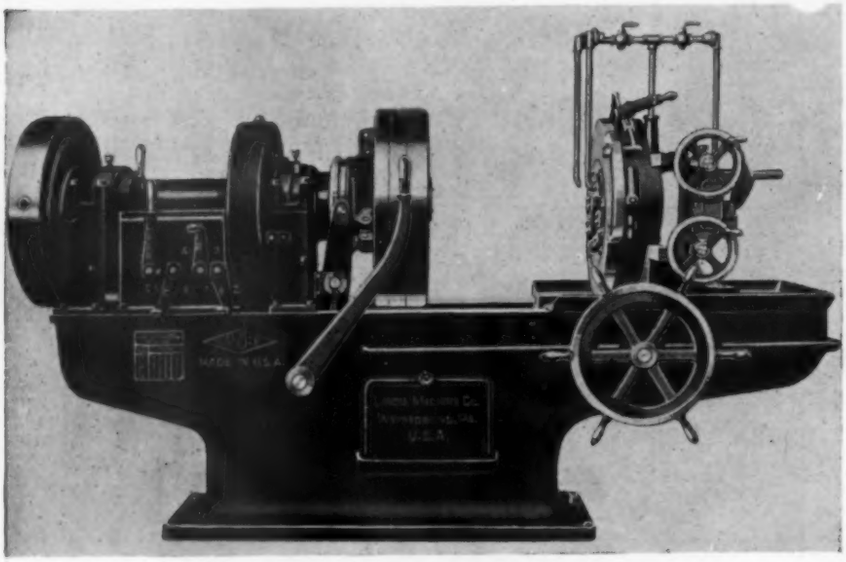
UNITED IRON WORKS

TULSA, OKLAHOMA



Landis Four-Inch Pipe Threading Machine

Landis Adds Four-Inch Threading Machine

The Landis Machine Company, Waynesboro, Pennsylvania, have added to their new line of pipe threading and cutting off machines a four-inch size. This machine is used by jobbers of pipe and plumbing supplies, by contracting firms, in oil fields, and in fact wherever pipe is threaded and cut off.

The four-inch Landis Pipe Treading ing and Cutting Off Machine has a base of different design from the other sizes. The new outline of bed offers an ample support for the headstock and carriage.

The machine has a gear box and a single pulley drive. It is readily converted to motor drive. All gears are cut from steel and run in an oil bath. A reversing mechanism is contained in the gear box and is operated by a lever located conventiently for the operator. This reversing mechanism eliminates the necessity of crossing the belt or throwing a switch when the machine is to be reversed.

The front and rear chucks are of sturdy construction and are of the three-jaw type. The front chuck has universal adjustment. It is also lever operated, thereby permitting the pipe to be put in and taken out without stopping the machine. This facilitates production. The rear chuck has independent adjustment. The main spindle of the machine is supported by two distinct bearings which are lubricated by flat link chains running in an oil reservoir.

The carriage supports the cross rail on which is located the die heads, the centering jaws, the cutting off tools and the reaming tool. Two cutting off tools are employed and are located diametrically opposite each other in holders which have a universal movement to and from the center. These holders also have a horizontal adjustment for the centering tools. The reaming device is attached to the cutting off tool slide and is lever operated.

The range of the machine is from one inch to four inches. This range is covered by two Landis stationary pipe die heads, namely a two-inch head for a range from one to two inches and a 4-inch head for a range from 2½ to four inches. The die heads float horizontally in a T-slide on the cross rail.

The cutting solution system includes a rotary pump, a by-pass for the surplus solution and also control valves at the die head and cutting off tools.

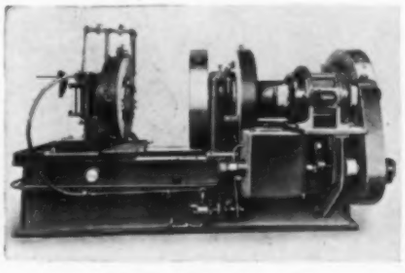
All starting, stopping and reversing levers are located on the operating side of the machine within convenient reach of the operator. The levers for obtaining the various speeds within the range of the machine are also located on the operating side of the machine.

The machine has eight speeds. The travel of the carriage is 24 inches. The floor space required is 4 feet 5¼ inches by 8 feet 6-1/16 inches. The net weight of the belt driven machine is 5700 pounds, while that of the motor driven machine is 6300 pounds.

This machine employs the Landis Long Life Tangential Chaser.

New Range Threading Machine

To make their line of thread cutting machinery more complete, the Landis Machine Company, Waynesboro, Pennsylvania, has added a threading and cutting machine with a range from two and one-half to eight inches, inclusive. Two die heads are employed for covering this range: one four-inch head for a range from two and one-half to four inches, inclusive, and an eight-inch head for a range from four to eight inches, inclusive. The entire range of each head is covered by but one set of chasers.



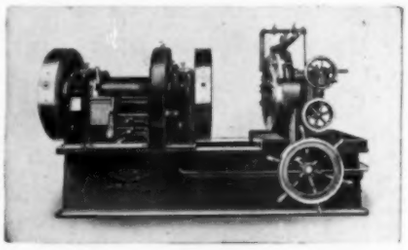
Landis Eight-Inch Pipe Threading Machine

The travel of the carriage of this machine is 24¾ inches and it has eight speeds. The driving pulley is 44 inches in diameter and takes a five-inch belt. The machine is nine feet, three inches by four feet, nine and three-fourths inches. It weighs, belt driven, 9750 pounds, and 10,500 pounds arranged for motor drive and equipped with motor.

Illustration No. 1 shows the operating side of the machine. It has a gear box and single pulley drive. The gear box is located beneath the main spindle and throughout it are obtained the variations in speed of which there are eight. All gears are steel and are cut and run in an oil bath. The shaft bearings are lubricated automatically by a forced feed system. The main bearings are lubricated by flat link chains running in oil reservoirs.

The front and rear gripping chucks have universal adjustment and are self-centering to the pipe. The rear chuck is equipped with flange grips for screwing flanges on and off. Both chucks have three jaws.

A reverse drive, located in the gear box, is used for putting on and taking off flanges. The reverse is controlled by a lever, located within convenient reach of the operator.



Another view of Landis Eight-Inch Pipe Threading Machine

The cross rail supports the die head and at the rear is fitted with centering jaws, cutting off tools, reaming tool and length gauge.

The die lubricating system includes a rotary pump, a by-pass for the surplus oil and a special control valve at the head and at the cutting off tool.

All levers are located conventiently on the operating side of the machine for efficient and productive service.

Illustration No. 2 shows this same machine, motor driven. The machine is easily adapted to motor and the motor can be applied after the machine is in service. The motor is mounted on a plate over the gear box and a silent chain transmits the power from the motor to the machine. A 10 h. p. constant speed motor, wound for an approximate speed of 1200 r. p. m., is required. The machine makes use of the Landis Stationary die head and the Landis Long Life Chaser.

Further information can be had from the Landis Machine Company, Waynesboro, Pennsylvania.

Exclusive features of the **MASTER Pump Jack**

Straight Lift

+

Machined Bearings

+

Easy to Install

+

Reduces Losses

+

Unit Assembly

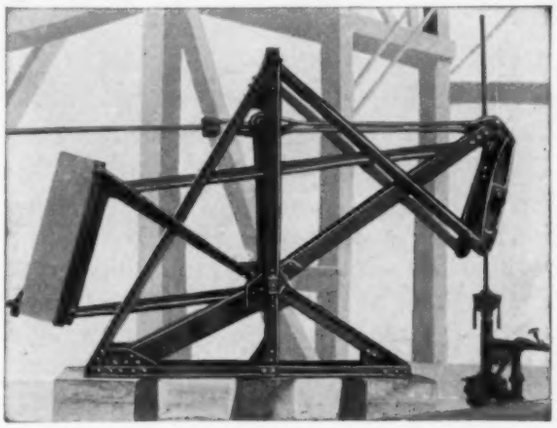
+

All Steel Construction

+

Removable Bearings

Study the principle.



14 exclusive *features*— of the *MASTER* Pump Jack

WHEN you equip your leases with the Master Pump Jack these are the 14 features that will constantly be helping to reduce the losses that cost you money, whether they be loss of time, frictional losses or actual loss of production.

The Master Pump Jack is unique in design, construction and operation. It comes complete, requires no expensive foundation and will start saving you money from the start.

Why not let us furnish you with complete information on what the Master will do on your lease? Write now—there is no obligation.

Oil Well Accessories Company

Texas Representative:
J. T. Gullahorn
316 Main St.,
RANGER, TEXAS

329 E. Fourth St.,
Phone 3-1050
TULSA, OKLAHOMA

Exclusive features of the **MASTER Pump Jack**

Reduces Friction

+

Reduces Shocks

+

Slow Starting Motions

+

Long Stroke

+

Easy Stroke Adjustment

+

Large Oil Reservoirs

+

Positive Lower Stop

PERFECTION IN WHIPSTOCKS

Perfection in whipstocks is just as important as perfection in any other tool that goes into a well. A whipstock that saves a well by making possible a sidetracking job at an angle that keeps the hole in alignment might well be worth its weight in silver—A whipstock that gets to bottom without the top being broken, a whipstock that locks itself in place—how many times have you wanted it?

The hinged, self-locking Kinzbach whipstock, by reason of its hinge, automatically slips into position, the top of the whipstock being forced against the casing so as to permit the reaming tool to mill out in eight to 10 feet. We have the absolute evidence that our whipstock will do this, in the form of a 10 foot core of casing taken in a well at Humble where the Kinzbach whipstock was used, and can cite numerous other evidences.

Not only does it fit into position automatically, but it locks itself, thus eliminating the turning of the whipstock in the hole.

The whipstock is made of cast steel—no danger of breaking, as is the case with the oldfashioned cast iron whipstock.

It is made in three sizes, six, eight and ten inch. Outside diameter ranges from 5½ inches to 9½ inches. Overall length 19 feet 11 inches, length of taper 14 feet.

This whipstock is guaranteed. Order it, and if, after using it, you do not think it worth its price bill us for the difference between its price and that of an ordinary whipstock made of the same material, and our check will come by return mail.

This tool is the invention of Frank Kinzbach, widely known for his successful invention for the oil producing business. Frank Kinzbach is more than an inventor—he is a practical field man, having been associated with the oil business for more than 20 years. His experience not only numbers years in the field, but he was for 13 years head of the Texas Company's shop at Humble, Texas.

HARRISBURG PIPE & PIPE BENDING COMPANY OF TEXAS, Inc.

Sawyer and Winters Sts. Phones Preston 3839 and 5540. P. O. Box 42, Houston, Texas.

IMPROVED — TUBING SLIP and SPIDER

This equipment differs from the ordinary Slips and Spiders as follows:—The Spider has a bearing surface of 6¼ inches, all brought into play when slip is in place—considerably more than others.

As shown in the illustration below, the slip is made in four segments, all hinged together, making it necessary to handle only one spider. It is light enough to be easily handled and yet durable and strong.

It is impossible for the slip to fall into the well, because it can not be folded in shape to fit into the well.

Spider sets flat on top of the casing to allow good alignment with the tubing. The slip is fastened to the casing with a chain.

The Spider is made of Cast Steel.

The Slip is made of Water Hardened Bit Steel Assuring long life.

Slip and Spider Assembled

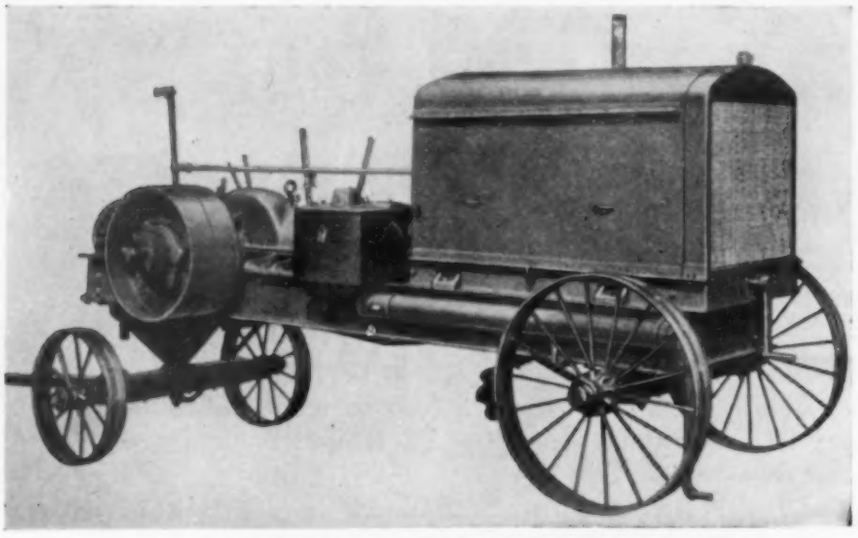
Spider

Slip showing joined segments

Further information mailed on request.

HARRISBURG PIPE & PIPE BENDING COMPANY OF TEXAS, Inc.

Sawyer and Winters Sts. Phones Preston 3839 and 5540. P. O. Box 42, Houston, Texas.



W. T. Young Engine Corporation Mounted Drilling Engine for wildcatting

W. T. Young Has New Portable Units

A mounted drilling engine especially well adapted for wildcat or exploration work is announced by the W. T. Young Engine Corporation, Canton, Ohio.

This engine consists of a heavy duty multiple cylinder, four cycle motor, transmission, clutch, shaft, pulley and blower for forge, assembled on a channel beam frame which is carried by an all iron truck.

For emergencies and unusual jobs the engine is equipped with a low speed gear. Fuel and water consumption is said to be remarkably low in this engine.

The engine itself is either a four or six cylinder heavy duty four cycle locomotive type motor, with force feed oil to all bearings. Bosch high tension magneto with impulse coupling, governor to limit high speed only. It is equipped with electric starting motor, generator and storage battery.

The hood which is made of galvanized iron and painted, fully covers the motor and when the sides of the hood are in place, they can be securely locked, preventing any tampering with the motor or accessories. Locks, all using the same key, are furnished with the outfit.

Gears are of alloy steel, oil tempered, running continuously in oil. They are of babbitt in cast iron shells, easily renewed if necessary. Belt pulley hub contains the floating Bronze bushing four and three-fourths inches in diameter by 13 inches long. The hub is hollow, forming an oil reservoir, which insures positive lubrication to the bearings.

Clutches are of the multiple disc type, each having four asbestos friction discs which have proven very satisfactory. These clutches are easily adjusted by simply turning one self-locking nut.

The pulley is of extra heavy split steel with solid web.

The blower for furnishing blast to the forge is of large capacity and is mounted on the rear right hand side of the engine frame and is driven from the engine shaft by a friction wheel.

Special advantages of the engine are as follows: it sets lengthwise with the belthouse, requiring only a narrow grade; the belt-pulley is on the left-hand side and is over-hung; the low speed gear gives ample power to pull three strings of tools or to start a long and heavy string of casing, tubing or packer; the engine is four-cycle, four or six cylinder, as desired, and has great flexibility; its fuel consumption is economical; no foundation is required, and the motor is enclosed in a hood.

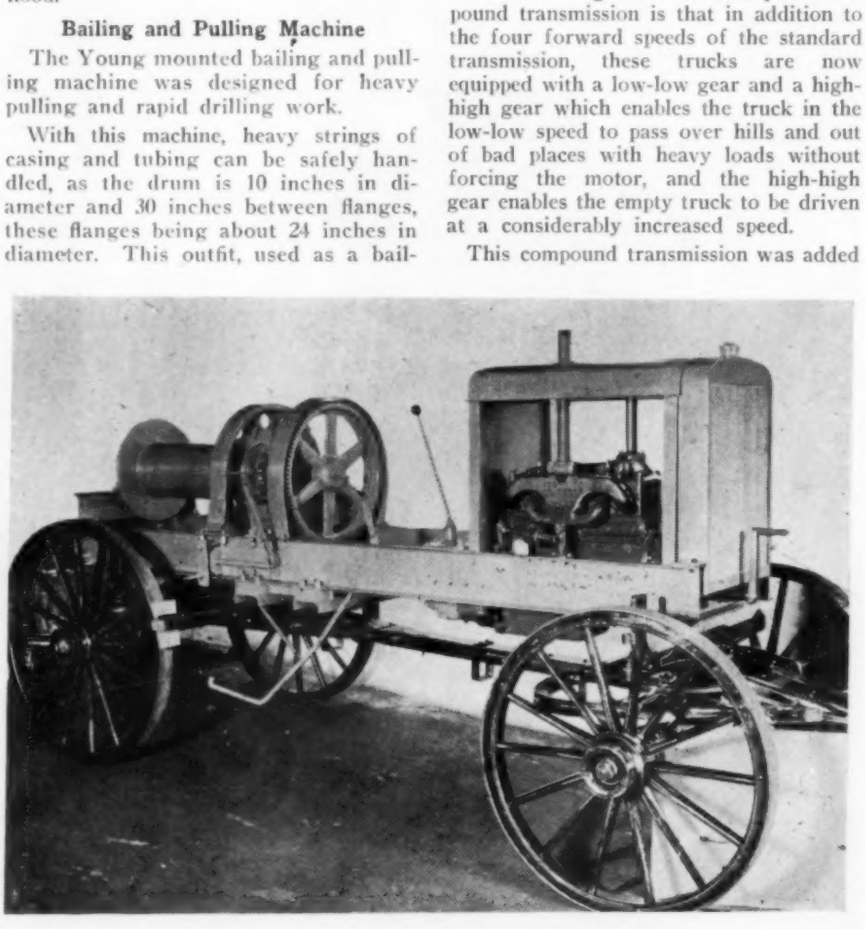
Bailing and Pulling Machine

The Young mounted bailing and pulling machine was designed for heavy pulling and rapid drilling work.

With this machine, heavy strings of casing and tubing can be safely handled, as the drum is 10 inches in diameter and 30 inches between flanges, these flanges being about 24 inches in diameter. This outfit, used as a bailing machine can pull a 6-inch bailer as rapidly as on a standard drilling rig. The machine consists of 50 h. p. multiple cylinder engine that may be operated on natural gas or gasoline and is equipped with a radiator. It also has a three-speed transmission with a reverse that gives a tremendous pulling torque when running in low or second gear.

It is furnished in various mountings as the work may require. As shown, it is mounted on the oil country wagon and is horse drawn, also furnished in rubber tired trucks, spring mounted as a trailer to be attached to trucks or team as wanted.

More specific information can be secured from the company.



W. T. Young heavy duty pulling and bailing machine

Trucks Meets Demands of Panhandle Hauling

Improvements in the standard model "RX" oil field special three-ton truck, manufactured by the Wichita Falls Motor Company, Wichita Falls, Texas, make this truck especially desirable for oil field service.

The chassis is now equipped with a compound seven-speed transmission, 10,000 pound pull motor driven power winch and a Wichita Oil Field Special loading rack or hoisting crane.

The advantage of the seven-speed compound transmission is that in addition to the four forward speeds of the standard transmission, these trucks are now equipped with a low-low gear and a high-high gear which enables the truck in the low-low speed to pass over hills and out of bad places with heavy loads without forcing the motor, and the high-high gear enables the empty truck to be driven at a considerably increased speed.

This compound transmission was added

to the standard "Oil Field Special" job, primarily, to overcome certain conditions in the Panhandle district of Texas, where short hard pulls and long trips are very common.

The use of power winch with special loading rack, or hoisting crane, is especially beneficial in the saving of time when loading out heavy pieces, as the Wichita Oil Field Special equipped with a winch and loading rack cannot only load and unload oil field machinery rapidly, but because of its great flexibility avoids the breakage usually attendant to handling heavy pieces by more primitive methods.

Further information may be secured by request from the company.

Skinner Clamp

Skinner High Pressure Saddle Clamp

Oversize strength and simplicity are said to be the two cardinal features embodied in the Skinner High Pressure Clamp, recently introduced by the M. B. Skinner Company, 558-562 Washington Boulevard, Chicago, Illinois.

Heavy reversible bolts are used in the clamp. A fulcrum hinge on the bottom sides saves deep excavation. The two pressure platforms will concentrate enormous even compression on a gasket regardless of the thickness of gasket material. Sliding skids guide the clamp to a clean fit.

Additional data can be had upon application to the company.

Platform for Lift Trucks Has Adaptable Features

Increased popularity of the lift truck system for handling materials on platforms has brought forth many improvements and adaptations in this kind of equipment. One of the most recent improvements is announced by The Stuebing-Cowan Company, Cincinnati, Ohio.

This is a platform originated by W. R. Stuebing, of Cincinnati. The principal feature of the platform is the method of clamping the wooden top between the jaws of the two steel angle rails, which is said to give a vise-like gripping action that results in maximum rigidity and strength.

This construction also makes the platform flexible to changing requirements, enabling conversion into bin types for handling small parts, stake types for long material, rack and table types, or the use of crane hooks where the load is to be handled overhead during certain phases of production.

Capacity of these platforms is given as between 10,000 and 20,000 pounds.

Further information will be supplied by the company on request.

New Transit Gas Engine Gas Compressor

An outfit designed especially for compressing natural gas has lately been introduced by the National Transit Pump and Machine Company, Oil City, Pennsylvania. It is known as the Transit Model 26, horizontal twin gas engine gas compressor.

A notable feature of the design is that with the exception of the main frames and cam shafts, all parts that are usually made right and left hand on a twin engine have been made interchangeable, so that they can be used on either side of the engine.

In working out the frame design, every precaution was taken to insure the centers of gravity of the cross sections being as nearly as possible to the center line of the cylinder. Each end of each frame ends in a heavy internal flnage. The cylinder is bolted to this flange on one end, and the compressor adaptor and compressor to the flange on the opposite end. The portion that forms the crank pit is of box section.

Top and bottom bored guides are provided for the main crosshead. The compressor crosshead is carried on a bored bottom guide. Guides and crank pit are separated from the cylinders by partition plates have stuffing boxes through which the piston rods pass.

Adequate openings are provided into the frame, fitted with easily removable cast iron covers.

Each cylinder is a separate casting with its inlet valve on the upper side and the exhaust valve on the lower side. A water jacket space is formed around each valve opening. The cylinder barrel projects into the main frame, and is sealed at the inner end with a rubber packing ring and a gland, leaving it free to expand. Each cylinder is secured to its frame by studs extending through a flange on the outer wall of the cylinder.

The cylinder head is cast iron, internally ribbed and independently water jacketed with cooling water inlet and discharge flanges on its outer face. The face of the head next to the fire is made conical in shape, without any ribs.

The piston is made of cast iron and is air cooled. The connection to the crosshead is through an open hearth steel piston rod turned to size, screwed and riveted into the piston, and screwed into the crosshead on the other end and locked with a jam nut.

Lubricating oil is prevented from following the rod and coming in contact with the hot piston head. A stuffing box in the partition between the cylinder and the crank case retains practically all the lubricating oil that falls on the rod on the crank case side of the partition.

The main crosshead is a steel casting. Crosshead shoes are of the hinged type, adjustable for wear by means of eccentric bolts passing through lugs on the crosshead.

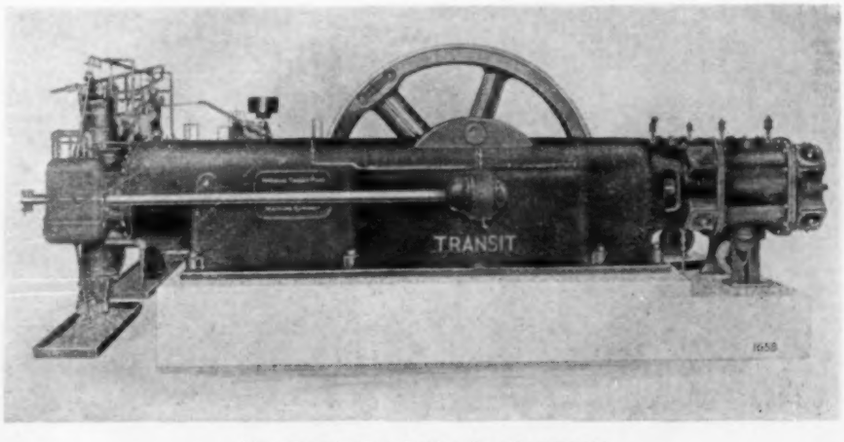
Side rods driving the compressor are attached to arms on projecting ends of the wrist pin.

The connecting rod is an open hearth steel forging with a solid end for the wrist pin and a marine type box for the crank end.

The crank shaft is on open hearth steel forging 11½ inches in diameter throughout its length. Steel oil rings are shrunk on the shaft before the cranks are attached to prevent the oil from the main bearings following along the shaft.

Main bearings are of the standard quarter box construction. The bottom and side shells are steel castings, the top shell is of iron. Shims are provided between the bottom and side shells and the top and side shells.

Inlet and exhaust valve casings are separate from the cylinders. The springs



New Transit Gas Engine Gas Compressor

BRADEN enters the DERRICK field

with the Braden Patent — Clamp-Joint Derrick

BOLTS ELIMINATED!

New Clamp Joint of Braden Derrick — Patented

The Braden Steel & Winch Company is pleased to announce a new steel derrick, the most interesting and valuable feature of which is its patented "clamp-joint." This new type of joint practically ELIMINATES THE USE OF BOLTS, for fastening the parts together.

The joint is extremely simple, being composed of outer and inner plates which grip the legs and girts and are fastened together by means of a single wedge-shaped pin. Holes are provided in which to hook the turnbuckle rods.

The new joint greatly facilitates erecting and dismantling. There are no bolts to insert and tighten, no delays due to inaccurately placed bolt holes.

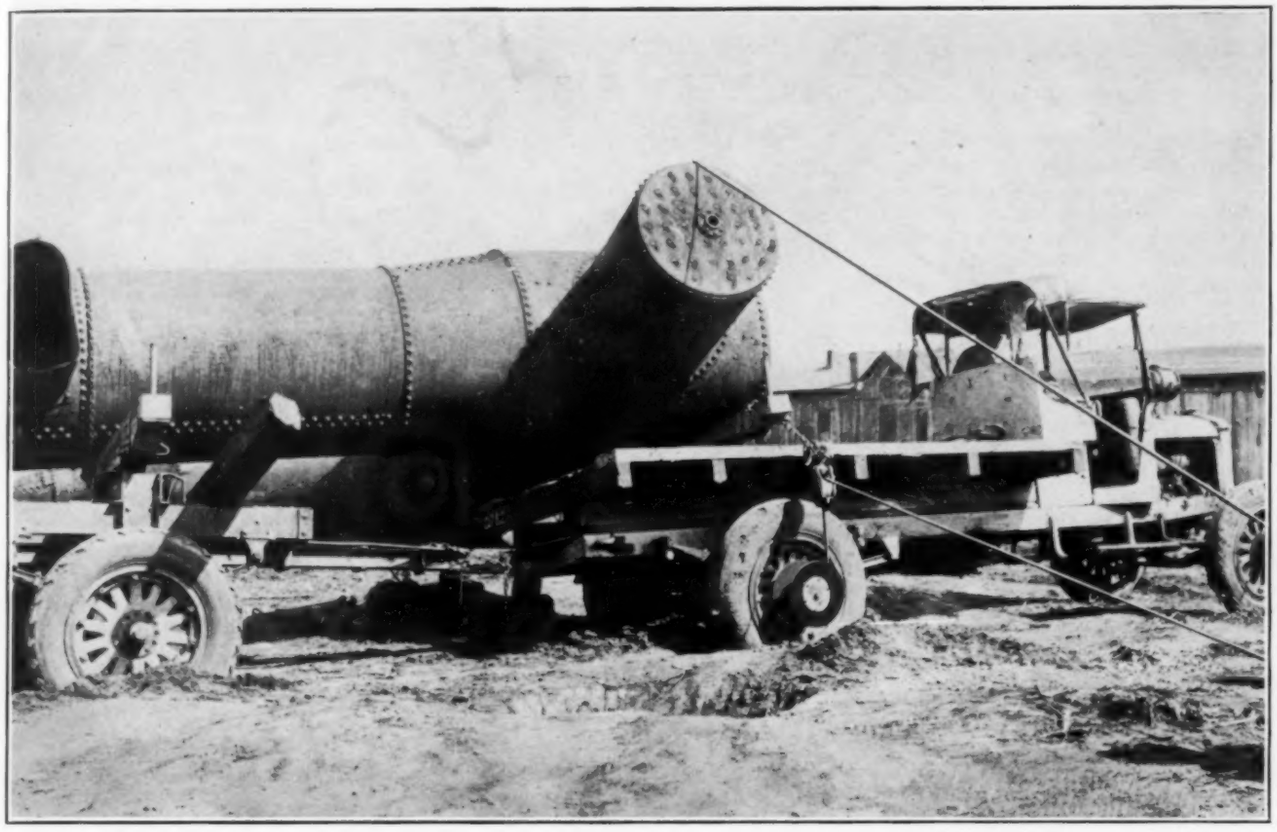
Materials are the best obtainable. Great over-strength throughout, combined with light weight, are the characteristics of this derrick. Ask for full particulars.

Note the Braden Engine House and Belt House, in the photograph.

THE BRADEN STEEL & WINCH COMPANY
Tulsa, Oklahoma

BRADEN (CLAMP JOINT) DERRICKS

Say you saw it in The OIL WEEKLY

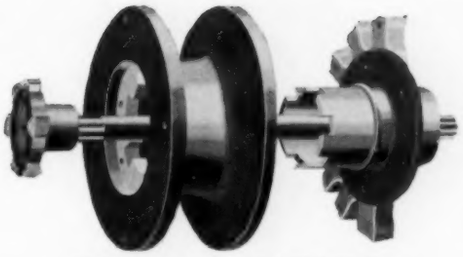


ONE MAN loading boiler with R-B Winch

A device that enables **ONE MAN**, sitting in the driver's seat, to load a 6-ton boiler, deserves your investigation. Without a winch a whole crew of men would have been needed. Note that wheel is NOT jacked up.

The "R-B" is a new kind of winch. It represents the winch idea PERFECTED! For it has ample power to handle practically any winch job, yet is small and light and does NOT occupy bed space. Its simplicity renders it the lowest priced winch, by far. Ideal for all kinds of Oil Industry loading, lifting, dragging, and for pulling its own truck out of mud holes, etc. Write for particulars.

BRADEN STEEL & WINCH COMPANY
Tulsa, Oklahoma



METHOD OF OPERATION

The sliding clutch on outer end of rear axle is shifted by means of a screw so that its teeth engage EITHER with the Winch or the Wheel. When set for driving the Winch, rear wheel is disengaged from the axle and remains stationary. It is NOT jacked up. The motor's power is delivered direct to the Winch. When clutch is set for driving the wheel, the Winch becomes a rigidly connected part of the Wheel and turns with the Wheel. Fully patented.

THE R-B WINCH

RELIABLE BRADEN WINCHES R B

Operates independent of wheel **No need of jacking up wheel**

Say you saw it in The OIL WEEKLY

and guide pistons are interchangeable. The exhaust valve casing is water jacketed, water being carried very close to the seat.

Valves are cam operated. The cam shaft is driven by means of a drag crank and link from the end of the crank pin. An adjustable coupling in the cam shaft permits setting the valves with sufficient accuracy without disturbing the gears. The cam, cam levers and rollers are completely enclosed. Push rods with spherical ends transmit the cam motion to the inlet and exhaust valve levers. These are adjustable with the engines running. Valve springs are of a large diameter and are stressed very moderately.

The air starting valve is operated from the same cam that operates the inlet and exhaust valves.

In designing the regulating valve care has been taken to maintain the proportion of gas and air uniform for every portion from no load to full load.

The engine is equipped with make and break igniter supplied with current from a five cell storage battery through a spark coil.

A double acting oil pump is located in a sump tank beneath the frame. Oil drains into this tank from the engine frame and from the cam shaft brackets on the side of the frame and cylinders. The underside of the double acting pump delivers this oil to a filter. The upper side forces the fresh oil from the filter into a glass reservoir or stand pipe located above the engine. Oil in excess of that which is fed to the bearings, overflows back to the sump tank. A McCord lubricator supplies lubrication for the cylinders and exhaust valve stems.

Further information may be obtained from the company by requesting bulletin No. 410.

Lucey heavy duty drilling engine

Lucey Offers Heavy Duty Drilling Engine

During the past year the Lucey Manufacturing Corporation, Chattanooga, Tenn., has developed a steam drilling engine which is attracting considerable attention, as it marks the introduction of a new type of reversing motion for oil field engines.

This engine is of the twin cylinder type with cylinders 12-inch bore by 12-inch stroke and is designed to meet the present day drilling and steam conditions where high speeds and steam pressures are demanded.

The locomotive type of balanced piston valve and valve motion, known as "monkey motion," are used, making the engine extremely easy to operate under high steam pressure and heavy loads.

This type of engine is also built with cylinders 10-inch bore and 10-inch stroke.

Force feed and Alemite system of lubrication are used.

More information will be supplied by the company, on request.

Adjustable Counterbalance Aid to High Speed Pumping

Simplicity of adjustment is a cardinal feature of the new Trout Counterbalance, being manufactured and sold by the Lufkin Foundry and Machine Company, Lufkin, Texas. It is said that the bolts may be loosened and the weights adjusted to proper position in five minutes.

These weights slide in machined slots

We Extend Cordial Greetings
and
Welcome

Members of the American Petroleum Institute

PHILLIPS PETROLEUM COMPANY
BARTLESVILLE, OKLAHOMA

in the crank, and when oiled are easily moved.

In pulling rods the weights should be shifted past the center of the shaft and adjusted to counterweight the crank arm itself.

The Trout Counterbalance is recommended for high speed pumping. It is said to take the jerk out of the rods, and at the same time give a kind of flywheel effect that is of great assistance in handling the load.

Further information may be had upon application to the Lufkin Foundry and Machine Company, Lufkin, Texas.

National Supply Company's New Items for Year

National Supply Company, Toledo, Ohio, is boosting a list of new equipment items, introduced during the past twelve months. All of these have received the National stamp of approval and are making good records for themselves in the various oil producing districts of the country.

Rex Beam Hanger

The Rex Beam Hanger consists of two separate assemblies, one for the right and one for the left side of the beam. These hangers are attached to the beam with a single one-inch double end bolt. The braces are anchored with heavy lag

Rex Beam Hanger

screws. The wire rope bridle for suspending the grip lies in the two rope guides with a look hooked over the beam in the easy double curves of the hanger.

This construction makes the hanger adaptable to any width of beam, without any cutting of the beam or alteration or adjustment of the hanger. The right and left hand assemblies are each made up of a hanger and a brace. The hanger is constructed of a cast steel head or hanger riveted to a forged steel rope guide. The head serves as a support and conducts the bridle rope in easy curves over the beam.

The rope guide is steel, forged in dies for uniformity. The deep Y-section forms a deep guide for the rope and a heavy section to resist bending. The brace is jointed to permit swinging the hanger clear of the hole. A forged clip forms a yoke connection to the rope guide

Type "C" Polish Rod Grip

and a reinforcement to the joint of the brace.

The two rope guides converge at the bottom in order that the suspension ropes may be central in the guides when connected to the standard polished rod grips, which are usually narrower than the beam. The hanger will further accommodate a wide range of grip centers due to the fact that the width of the rope guide forging is tapered from the top to a width of about three inches at the bottom. These reinforcements prevent wear of the rope due to friction on the sides of the groove.

The Rex Beam Hanger is easily installed by boring one hole through the beam for the one-inch bolt which supports the hangers and two small holes to start the lag screws for the braces. No framing of the beam is necessary. The hanger may be fitted to old beams with a worn end, as it rests on the beam back of the usual temper-screw notch.

This hanger has no moving parts, and therefore no parts to replace on account of wear. This also eliminates any need of climbing the beam for oiling. The folding braces permit the hanger to be swung back to clear the hole when pulling rods and tubing. The particular construction used makes it convenient to do this from the derrick floor with a pole. The hanger automatically swings back into working position when the beam is lowered.

Polish Rod Grip

The type "C" polished rod grip is a convenient and rugged device for adjustably suspending the pumping sucker rod string from the standard rig walking beam.

It is used preferably in connection with the Rex Beam Hanger. This combination gives a straight polished rod lift. The position of the traveling valve in the working barrel is easily adjusted by changing the grip on the polished rod.

The construction of the type "C" grip consists essentially of a body, a double or compound lever and a clamping screw for applying the load.

The body carries supporting trunnions, hinges for the levers and one-half of the gripping surface. The short lever with an advantage of about two to one, is hinged at one side of the body and carries the second half of the gripping surface.

The long lever, with an advantage of three to one, is hinged at the opposite side of the body and transfers its load very close to its fulcrum to the free end of the short lever. The combined leverage of this system is about six to one. To this is added the advantge of the screw.

The screw is hinged to the body on the short lever side. It has a long nut providing ample thread and wrench grip.

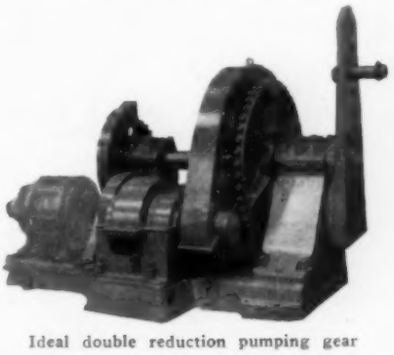
The type "C" grip, with its leverage, clamps the rod in jaws which have large areas smoothly machined to the exact diameter of the rod.

It is well balanced and can be attached to the polished rod with an easy motion similar to the application of the ordinary gate type pipe elevator. The grip is a unit with no loose parts to be taken off when attaching with the attendant danger of losing them. It will hold the heaviest pumping loads without danger of slipping.

Pumping Gear

The ideal double reduction pumping gear is a rugged compact self-contained unit for electrically driving the standard rig walking beam for pumping and cleaning wells.

The six-foot crank and the gear reduction provide for the long, slow stroke which modern pumping practice has shown necessary for handling large volumes of fluid from extreme depths with



Ideal double reduction pumping gear

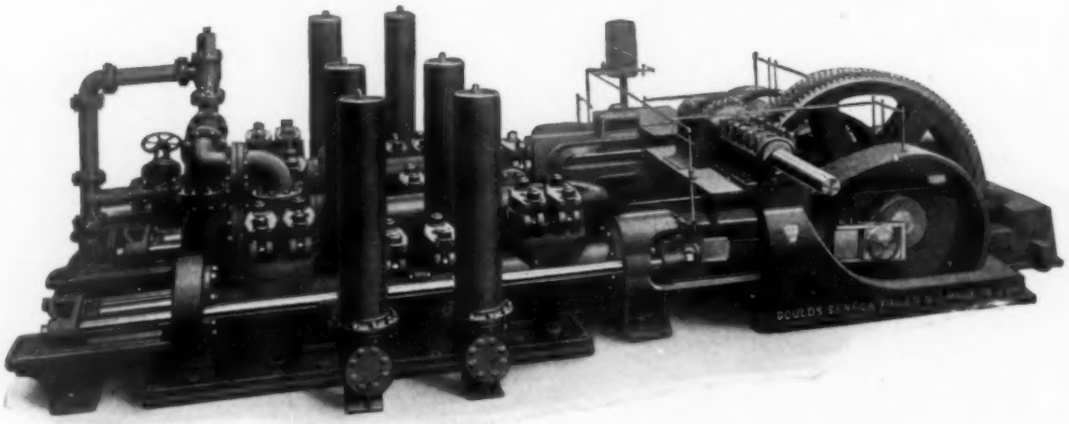
a minimum stress in the pumping equipment.

It furnishes a direct geared connection.

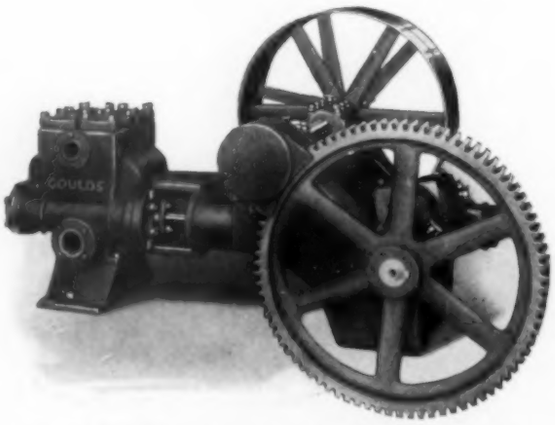
Machined pads are provided on the base for mounting the standard 15-35 horsepower oil field motors. The machine is designed with a generous safety

A Complete Pumping Service

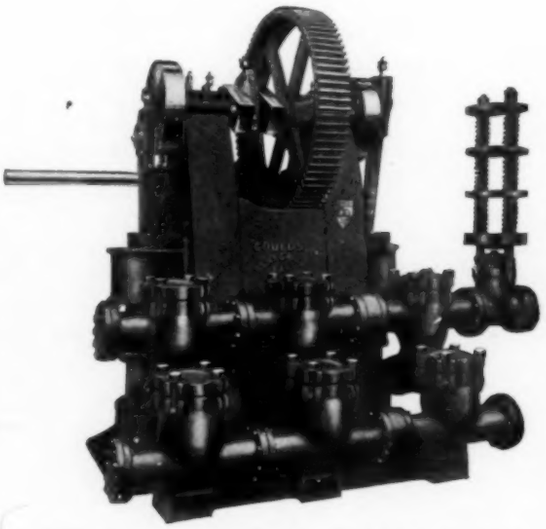
for the Petroleum Industry



STATION PUMPS: Horizontal double-acting, outside packed plunger type, either duplex or triplex. Capacities up to 25,000 barrels per 24 hours. Pressures up to 1000 lbs. Complete specifications in Bulletin 115.



GATHERING PUMPS: Horiztontal, double-acting, duplex piston packed types. Capacities 3100 to 6500 barrels per 24 hours. Pressures 400 to 600 lbs. Certain sizes are so designed that cylinder liners can be changed to increase or decrease the pump capacity in proportion to the pressure. Specifications in Bulletin 115.



STATION and TRANSFER PUMPS: Vertical, single acting triplex plunger type. Capacities up to 16 000 barrels per 24 hours. Pressures up to 1500 lbs. Complete specifications in Bulletins 103 and 116.

WATER PUMPS: Double acting, single cylinder types. Capacities up to 114 g.p.m. Pressures up to 75 lbs. Specifications in Bulletin 100.

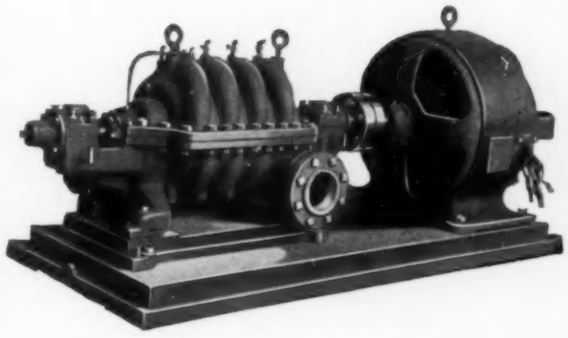
Single acting triplex type. Capacities up to 625 g.p.m. Pressures up to 300 lbs. Specifications in Bulletin 101.

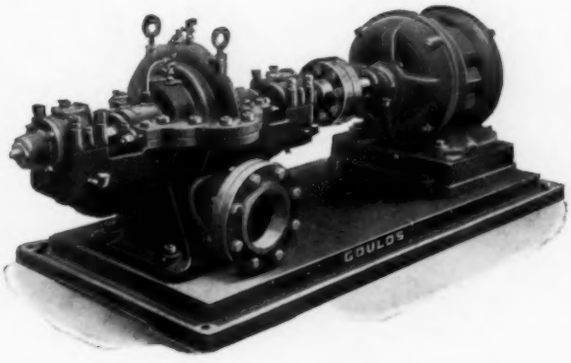
GOULDS PUMPS Inc.,

GOULDS

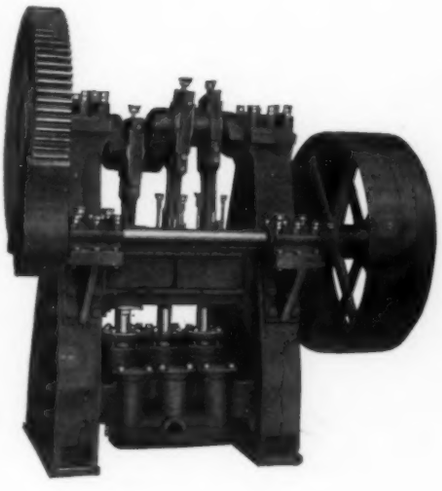
Pumps for Field Work

Main Line Stations—Refineries—Gasoline Plants

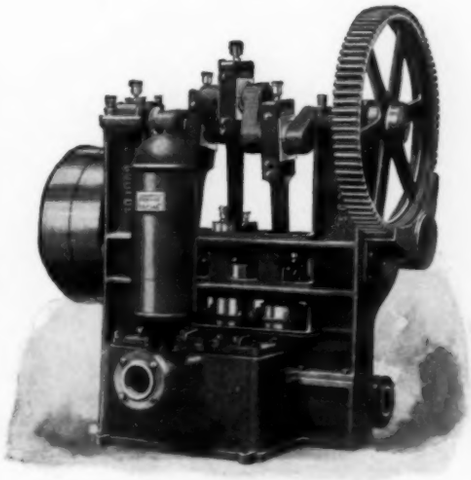




CENTRIFUGAL PUMPS: Single and multi-stage for oil circulating—main charging—spray and respray service—handling gasoline and light distillates—condenser service—boiler feed—brine circulation and many other applications. Specifications in Bulletins 105, 111, 118, 119, 125 and 129.



TRIPLEX PUMPS For a great variety of uses such as: Gasoline and naphtha high and low pressure work—loading out—transfer service — handling ammonia—pumping wax — filter press service, etc. Specifications—Bulletins 100, 101, 103, 104, 107 and 116.



Seneca Falls, N. Y.

PUMPS

factor adapting it to heavy pumping service.

The deep cast base is reinforced in two directions with flanged ribs.

Pads are placed on this base for mounting the motor, the first stage reduction, the crankshaft bearings and the guards.

The two crankshaft bearings are located accurately on the base by means of a tongue-and-groove joint, dowels and bolts. The first stage reduction is secured with bolts and dowels.

This is a high speed, five to one ratio reduction between the motor and the intermediate shaft.

Both the gear and pinion shafts are mounted on Hyatt roller bearings. The gears are of steel, the gear being cast and the pinion forged integral with the shaft.

The teeth are accurately cut Wuest staggered herringbone.

This first stage unit is totally enclosed and runs in a bath of oil which not only lubricates the gears, but is also carried by their rotation to the cover and distributed to the four bearings.

The crankshaft is the same diameter (six-inch) and the length is approximately the same as the heaviest drilling rig irons.

The crank is the standard rig iron design, but is made for a full six-foot stroke. Wrist pin holes provided for two, three, four and five-foot strokes. The crank is counterbalanced to give a flywheel effect in pumping and to decrease vibration when pulling sucker rods at high speed.

A standard 2¾-inch by 3½-inch wrist pin is furnished. As an additional precaution to prevent the nut unscrewing, this pin is provided with a Woodruff key fitting keyways in the wrist pin holes.

The crankshaft is mounted in two heavy bearing pedestals, tongue-and-grooved, dowelled and bolted to the base.

These bearings are on 53¼-inch centers, insuring accurate alignment and great resistance to the loads imposed by the crank and sprockets.

The bearing next to the crank is 16 inches long, the back bearing 13 inches long.

Both are fitted with adjustable and replaceable bushings of navy bronze. This type of bearing presents many advantages for this heavy duty crankshaft work, including great resistance to the impulse pumping loads. Double chain oilers, dipping in large reservoirs in the pedestals, supply continuous lubrication. Drains and oil level gauges are provided.

The intermediate shaft of the first stage gear and the crankshaft are connected by a pair of 6.5 to 1 ratio cut spur gears, the pinion being a heat treated high carbon steel forging and the gear a heat treated steel casting. These gears are on long centers, thus permitting the use of narrow faces and giving a more uniform tooth load than is possible with wide-faced small-diameter gears working under oil field service conditions.

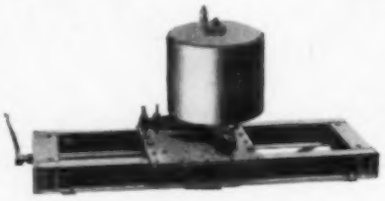
The use of spur gears in this low speed stage protects the high speed reduction from the possible end thrust of the crankshaft.

A flexible shaft coupling is furnished to connect the motor to the first stage pinion shaft. This compensates any small errors in aligning the motor and also introduces a resilient element to assist in absorbing shocks coming on the gear.

A flywheel is mounted on the gear half of the flexible shaft coupling. This assists in smoothing out the impulse loads, placing a more uniform demand for power on the motor.

Type "C" Belt Tightener

The National Type "C" belt tightener for band wheel pumping powers is similar in general design to the National Type



Type "C" Belt Tightener

"B" belt tightener, but is heavier throughout to withstand severe service.

The Type "B" is the standard tightener for the National 9-C Single Eccentric power and for the usual types of installations of the National 12-C Double Eccentric power.

It is very ruggedly constructed, combining ease of operation with great strength and rigidity. The bed is built of two I-beams joined at the ends by heavy cast box sections. The whole is rigidly braced by a crosstie and by lattice bars. Smooth, rounded corners protect the belt.

The carriage is fabricated from a heavy steel plate reinforced on the underside with bars and structural channels. An adjusting screw nut is bolted into the rear reinforcing channel. This engages the lead screw in the bed so that the carriage may be moved along the bed by the crank.

The pulley spindle is adjustably mounted on the carriage so that it may be inclined in any direction to raise or lower the belt.

The hollow steel spindle has its lower end tapered to fit a corresponding bore in the adjuster arm. The casting has a half-round boss on the lower side which fits a corresponding hole in the carriage, forming a ball-and-socket joint.

The spindle assembly is tied down by a long bolt passing through the hollow spindle and engaging the spindle clamp below. Tightening this bolt not only secures the spindle to the carriage, but also clamps the carriage to the bed, assisting the carriage clamp on the opposite side. This spindle clamp also embodies a ball-and-socket construction which holds the bolt against rotation and at the same time allows it to tilt with the spindle.

The adjuster has two integral arms, one parallel to, and one at a right angle with the path of travel of the carriage.

The end of each arm has a set screw bearing on the carriage plate and a lock bolt passing through arm and plate. This provides for tilting the spindle for adjustment and also for locking it in operative position.

The spindle is a 3½-inch steel shaft. The pulley is carried on a bushing turning on this spindle. The collar on top of the spindle forms a seat for the spindle bolt nut, a collar to retain the pulley bushing, and an anchorage for the lubricator.

The pulley is 24 inches in diameter, with an 18 inch face split hub and solid rim. Heavy cast iron construction is used.

The bushing is cast iron, similar in construction to the lower bushing on the bandwheel power, although obviously much lighter. This, with the steel shaft, furnishes an ideal bearing combination. The bushing has an outstanding flange at its lower end which, with a corresponding surface on the adjuster casting, forms a thrust bearing for supporting the weight of the pulley and the belt.

The split pulley hub is clamped on the bushing. Three inches of vertical adjustment is provided.

A sheet guard over the pulley prevents catching of tools or the hands in the pulley spokes.

The spindle bearings have a very large area giving low bearing pressures. This bearing is oiled by sight feed oil cup mounted on the spindle collar. This feeds oil through a hollow dowel into the spindle. This construction prevents oil leaking onto the pulley guard. The oil hole in the spindle leads outwardly to spiral grooves feeding the spindle bearings. Excess oil drains into a cup at the bottom (cast on the adjuster arm) in which the thrust bearing is submerged. This cup has an overflow pipe leading through the carriage.

Oval Gear Attachment

This attachment produces a long, slow pumping stroke, which is needed in handling large volumes of fluid from extreme depths.

Construction of the outfit consists essentially of a planetary geared crank connecting the standard rig band wheel shaft and pitman. One of a pair of gear is mounted on the band wheel shaft, the other is bolted to the pitman. The two are connected by a frame carrying two journal bearings. Rotation of the crankshaft gear causes the pitman gears is mounted on the band wheel crankshaft speed.

Each gear consists of two toothed flanges jointed by a hub, the whole being cast in one piece. The entire contour between the flanges is machined to provide a journal bearing and a raceway for the guide rollers. It is said that the oval shape of the gears gives a modified crank motion

Oval Gear Attachment

From California

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with a decrease in acceleration at the beginning and end of the stroke.

The gears turn in two large journal bearings fitted with heavy bronze bearings which are both adjustable and replaceable. The guide rollers operate on the machined tracks between the gears and assist in maintaining alignment.

The Oval gear is designed and equipped with a six-inch shaft, but is obtainable with five-inch shaft on special order.

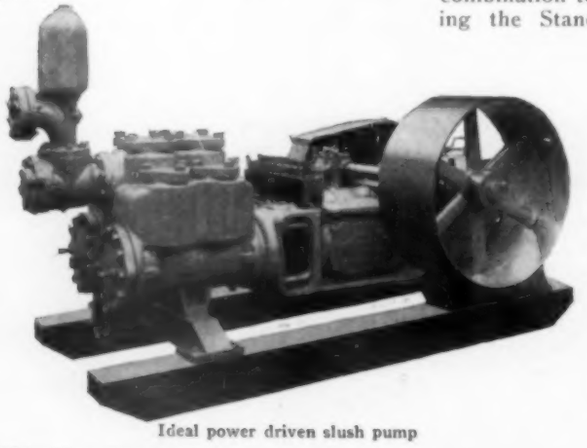
Slush Pump

The new 6¾x14-inch Ideal Power Driven Slush Pump has been designed and built for heavy duty rotary drilling service in fields where it is necessary or advisable to use internal combustion engines or electric motors for power in place of the usual steam equipment.

The 6¾x14-inch fluid cylinder which has contributed so much to the success of the corresponding steam driven Ideal Slush Pump is used interchangeably on this pump. A 6½, 6, 5¾, 5½ or 5-inch diameter liner can be substituted for the standard 6¾-inch diameter where less volume at higher pressure is required. The standard 7¼x14-inch Ideal Fluid Cylinder can also be fitted for low pressure service.

Metal piston and valve packings are available for this pump, as for the standard steam pumps. With this equipment it is admirably adapted to handling oil in pick-up or pipe line service. For rotary fields this advantage of interchanging the drilling and pick-up pumps is obvious.

The standard pump is arranged for belt drive. A 48-inch diameter by 14-inch face pulley is furnished as standard equpment. It can also be furnished for direct motor drive. This arrangement is more compact but somewhat less flexible than the belted installation. Finished pads and tapped holes are provided on the top of the pump frame to take a motor sub-base which can be drilled as specified for any one of a number of types of motors. The belt pulley on the pump intermediate shaft is replaced by a gear which is meshed with a pinion on the motor shaft. This gives a direct double geared connection between motor and pump.



Ideal power driven slush pump

Cut herringbone gears are used on this pump. The pinion is of forged steel, and gear of cast steel both carefully heat-treated, cut and ground. This type of gear combines great strength with practically noiseless operation.

One of the outstanding features of the Ideal Power Driven Slush Pump is the thoroughness of its lubrication. A two gallon capacity, fourteen feed Class "B" McCord lubricator is furnished as standard equipment, driven by an eccentric on the intermediate shaft. It furnishes positive-pressure measured lubrication to every moving joint (except the gears which run in an oil bath) and also to the fluid piston rod glands. This is recommended as the most reliable and positive means of lubrication on account of the construction and the relatively slow speed of this type of machine.

The frame is enclosed by means of the auxiliary stuffing box, side plates and crank guards. The gears also are totally enclosed and run in a bath of oil. This enclosure of the working parts serves three useful purposes; slush and water is excluded from the principal bearing surfaces, efficient lubrication is permitted; and more important the safety feature which lies in the covering of gears and cranks.

Complete information on all these items may be obtained from National headquarters at Toledo, Ohio, or from any branch office.

Perfect Collapsible Rotary Drill Appliances

A new drill collar with reamer attachment is announced by O. M. Carter of the Standard Collapsible Rotary Drill Company, 206 Scanlan Building, Houston.

This improvement will keep walls in full gauge, provide four-sided contact in the hole to keep bottom of the drill stem from wobbling, and assisted by patented manner of installing Standard Collapsible Rotary Drill cutters keep the hole straight. Improved designing makes this reamer free from annoyances incident to wear caused by sand in the journals and bearings.

This company has also perfected its combination tool for lowering and raising the Standard Collapsible Rotary Drill and Core Barrel through the center of the drill stem. It is said that this tool will never let go of the drill before the cutters are fully expanded and securely locked in drill collar for drilling; and will always promptly engage the top of drill, quickly collapse the cutters, and never let go until the drill is brought to the derrick floor.

Standard-Collapsible Rotary Drill Company's drill collar

Additional data and literature will be mailed upon application to the company.

Kibele Self - Expanding Frictionless Piston

The Kibele self expanding and frictionless piston, manufactured by the Mission Machine and Supply Company, 201 East Cevallos Street, San Antonio, Texas, and distributed by the Mission Sales Company, Houston, Texas, as well as supply houses, is made to fit any make of pump and to pump any and all kinds of fluids.

The packing sleeve expands to whatever shape the liner may be, barrel shape, out-of-round, taper, etc., and is said to pack the full length of the stroke of the pump without slippage or by-pass. No adjustment is required after the piston is once installed.

More detailed information regarding the piston will be furnished from any of the above addresses.

Kibele self-expanding frictionless piston

H. C. Smith Valve Seat Puller.

H. C. Smith Company Offers New Items

Several interesting specialties have lately been put on the market by the H. C. Smith Manufacturing Company, Whittier, California, and are causing considerable interest among operators on the west coast.

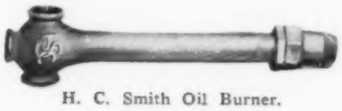
A new valve seat puller designed for extra heavy duty can be operated by only one man. The puller is of the wedge type and is chaacterized by freedom from loose parts.

H. C. Smith Liner Puller.

Liner Puller

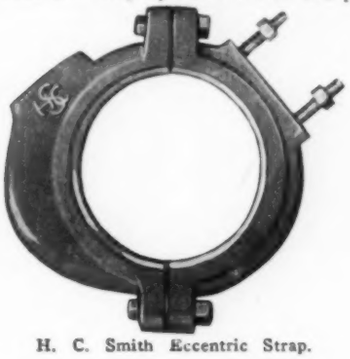
Exclusive features of the heavy duty Smith liner puller include the extra large screw of one and one-half inch diameter machinery steel and long ratchet nut employed to effect the pull which assures maximum efficiency of the puller.

A suitable bar is furnished with each puller.



H. C. Smith Oil Burner.

H. C. Smith Low Pressure Gas Burner.



H. C. Smith Eccentric Strap.

Oil Burner

Efficiency, economy and silent operation combine to make the Smith oil burner very practical for use in power plants and field boilers. The burner has a wide range of adjustment. The nozzle can be set while the burner is working to get any desired character of fire.

Eccentric Strap

The Smith eccentric strap without arms is made with large oil reservoir which extends part way round the cap half of the strap. The reservoir holds nearly a pint of oil and is packed with wool waste which permits the oil to seep through slowly as needed, assuring a well lubricated bearing surface at all times, according to the manufacturers.

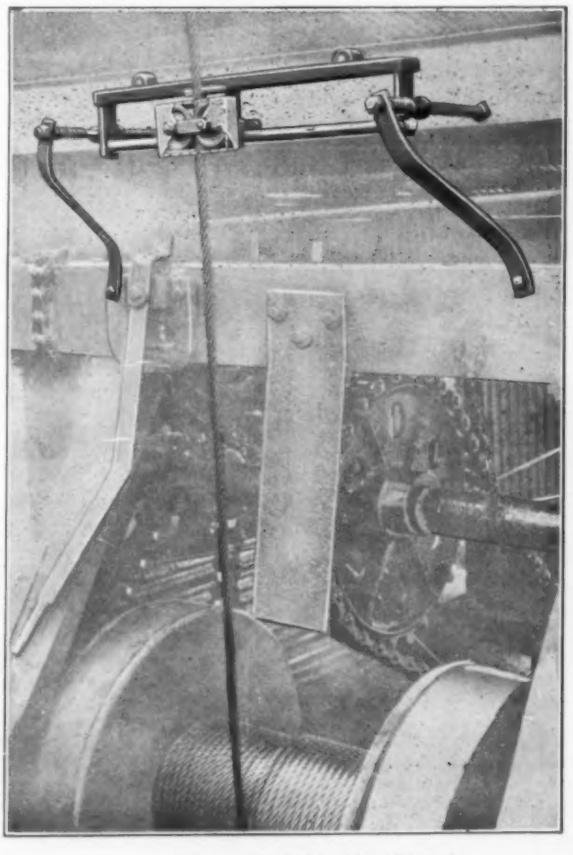
Low Pressure Gas Burner

Outstanding features of the Smith Hot Blast Number 3 low pressure gas burner are its silence, efficiency and easy installation. The burner is adapted to all types of boilers and combustion chambers. Burners are standard length of 27 inches, but can be extended to any length required by wall thickness, by adding extensions which are furnished in six-inch lengths.

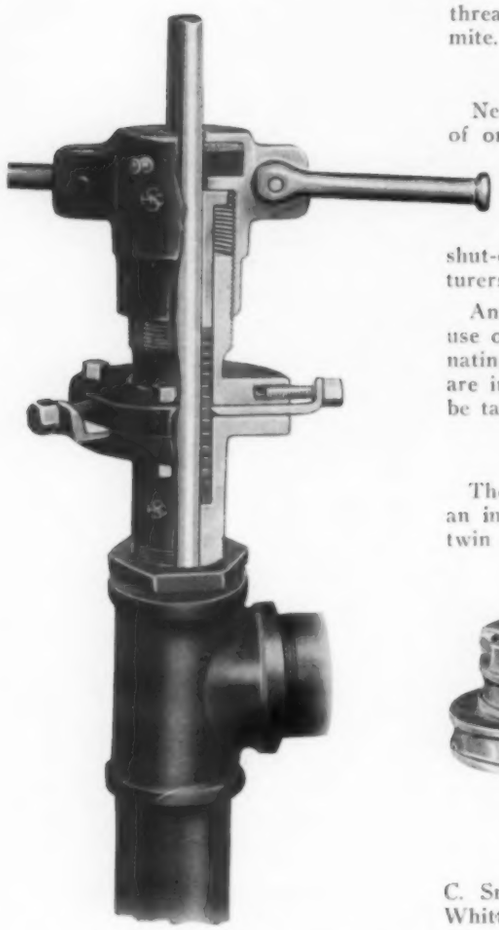
The manufacturers claim for this gas burner the maximum amount of efficiency when used in power plants, refineries, fire box, tubalar and water tube boilers and in dutch ovens and stills.

Line Control

Maximum service can be had by using the Foster and Smith Line Control, according to the manufacturers, the H. C. Smith Manufacturing Company. This is due to the fact that the line control spools the casing line so perfectly that it will not cut in when



Foster and Smith Line Control.



H. C. Smith High Pressure Stuffing Box.

going in the hole. There are no adjustments to get out of order and the operator is thus saved a great deal of time in the use of the line control.

High Pressure Stuffing Box

Through the use of the Smith high pressure stuffing box, wells can be packed immediately under pressure when it is necessary to repack.

The blades shown in the illustration are inserted over the last ring of packing below them and new packing rings are inserted above the blades, the cap started on and the blades withdrawn. An important feature is the provision for oiling the polish rod, a reservoir being provided to be used with either grease or oil. It is fitted with pipe thread to fit either grease cup or alemite.

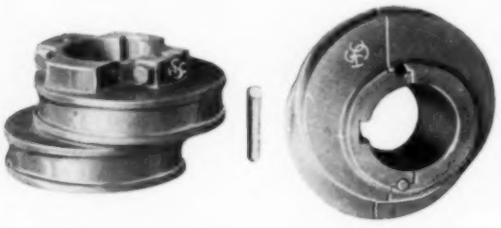
Nemec Eccentric Straps

Nemec eccentric strap and arm are of one-piece steel construction, eliminating the studs that formerly bolted the strap to the arm, thus eliminating one of the greatest sources of danger of shut-downs according to the manufacturers.

Another feature of the strap is the use of heavy duty bronze liners eliminating all wear on the strap. The liners are interchangerable. Straps need not be taken from the engine.

All Steel Eccentric Hub

The Smith all-steel eccentric hub is an improvement in eccentric hubs for twin drilling engines, according to H. C. Smith Manufacturing Company of Whittier, California.



H. C. Smith all steei eccentric hub.

The two halves are joined securely with taper pins driven the length of the joint, which makes it impossible for them to part or shift without removing the pins. Hubs may be installed without disturbing the drive sprocket on the shaft.

The H. C. Smith Company, Whittier, California, will supply further information on all thes items, upon inquiry.

Leonard Tubing Catcher Superior Tool

P. J. Leonard, West Tulsa, Okla., is manufacturing a tubing catcher claimed to have superior advantages.

In this catcher there are guards to keep oil from floating up the slips thereby preventing setting of the catcher. It is equipped with an 8-inch stroke jar at the bottom end which eliminates the use of fishing tools when the tubing catcher is in use. A slight upward jar releases the slips on the catcher, and disengaged it can be brought up out of the hole.

The catcher is made in all sizes.

Additional information can be had from the manufacturer upon application.

Nemec eccentric strap.

Oil and Gas Separator Fits in Bottom of Hole

An oil and gas separator said to separate the oil from the gas at the bottom of the hole, is being marketed by The Burns Tool Company, Okmulgee, Oklahoma, under the name of the Carnes Oil and Gas Separator.

This separator is installed in the well below the working barrel and is said to have a number of advantages.

By keeping the gas out of the barrel and tubing the valve is enabled to work in a more efficient manner and production is increased.

It is said, also, that by separating the gas from the fluid in the well, "pockets" are avoided and the tubing can be kept filled with fluid, thus doing away with the racing of the engine and the vibration of the rods.

As the fluid enters the Carnes Oil and Gas Separator from the top, most of the sand settles out and as the gas is kept out, it does not have a chance to keep the oil stirred up, consequently cups last longer and pulling expense is reduced.

Because it takes out the gas before the fluid enters the tubing, this separator is said to eliminate cut oil.

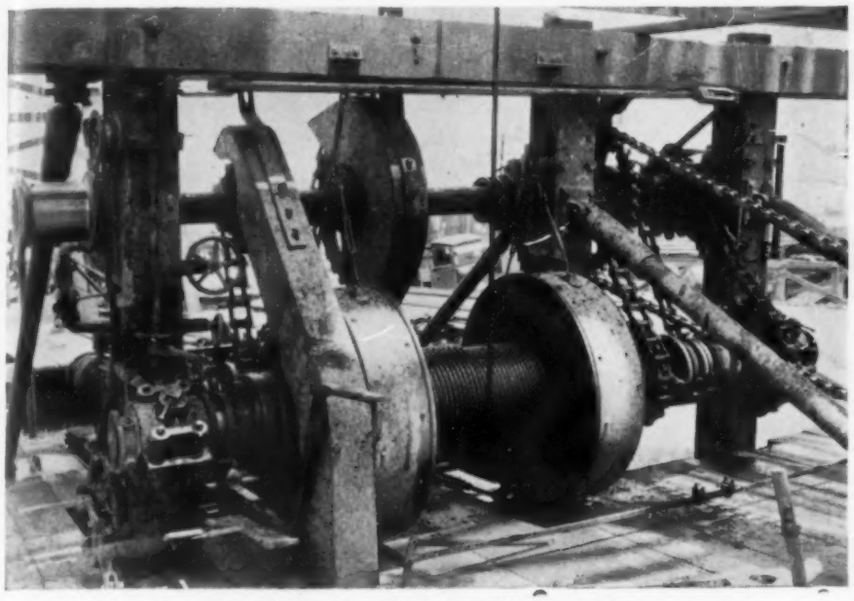
Additional information will be supplied by the Burns Tool Company, Okmulgee, Oklahoma.

Unusual Features in Boykin Rotary Draw Works

Several features of unusual construction are embodied in the Boykin "Greyhound" air-cooled, three speed drawworks, recently put on the market by the Boykin Machinery and Supply Company, Beaumont, Texas.

The Boykin oiling system, which consists of a fixed ring on the shaft and a brass oil spreader at the top of the box, gives a continuous flow of oil to the bearings. The box is so constructed that when the oil reaches the end of the bearings, it flows back into the oil cellar. Here any sediment settles to the bottom and only the clean oil is picked up by the oil ring to be used over again.

Drum flanges are so constructed that they allow air circulation at all times when the drum is in action. An air space of one and one-half inches, with ribs



Boykin "Greyhound" three speed draw works.

running at an angle through the full width of the flange, causes the air to circulate, keeping the flame cool.

All posts are made of 10-inch H structural beams.

Extra long bearings are a part of the Boykin draw-works. Bearings are fitted with renewable bronze linings, adjustable for wear. All linings are interchangeable to any box or any part of the box. The entire bearing can be changed in less than 45 minutes, according to the manufacturers.

Extra wide brake bands are provided to allow a larger brake surface.

Both the line and drum shaft are of a special analysis ground and polished steel.

Further information may be had upon application to The Boykin Machinery and Supply Company, Beaumont, Texas.

Diamond Drill Designed For Deep Hole Work

Widespread growth of core drilling in prospective oil territory during the past few years has brought diamond core drills to the attention of many operators, and these coring outfits have played an important part in the discovery of many of the big oil fields.

Experience during the last two and a half years has demonstrated the desirability of a larger, faster and more powerful outfit than has heretofore existed, for handling large casings and very deep tests. To meet this need, the type "FK" drill has been designed and built by the Sullivan Machinery Company.

The "FK" drill is designed to bore a 4-inch diameter hole to 5000 feet and to set 4-inch casing at 4000 feet. It has actually carried a hole to 6007 feet in India, and to over 5000 feet in Wyoming.

Special features for deep hole work can be summarized as follows: Variable rotary speed of the bits; increased rapidity of hoisting, together with ample lifting power; single cylinder hydraulic feed; reliability and staunchness in operation, and heavy duty construction to stand continuous service.

The outfit is nine feet, three inches in width over the cat heads, seven feet six inches in length, and from the drilling platform to the top of the hydraulic cylinder is 10 feet, nine inches in height.

The engine, hydraulic drill head and hoisting equipment are all mounted on a very substantial, deep, box-shaped cast iron bed-plate, which in turn is set on a structural steel frame with heavy, girder type shoes. The machine without the frame weighs 15,000 pounds, and has a total weight including the frame, of 20,000 pounds.

In spite of its weight, the machine is readily handled, and is said to be exceedingly compact.

Three essential parts make up the outfit: the feed apparatus and drill spindle; the hoisting equipment; the engine.

In all these parts the most expert engineering skill has been embodied in construction, and no expense has been spared to turn out a product adequately fitted to perform the task for which it was designed.

Portable Air Compressors Are Electric Driven

Two new Sullivan Portable Air Compressors have recently been put on the market by the Sullivan Machinery Company, 122 S. Michigan Avenue, Chicago. These compressors are electric driven and are called "WK-522," and "WK-324."

The "WK-322" model is mounted on steel wheels. This unit may also be mounted on a trailer truck, on skids, or on a one-ton Ford truck. The other unit can also be mounted on skids or on a trailer truck when required.

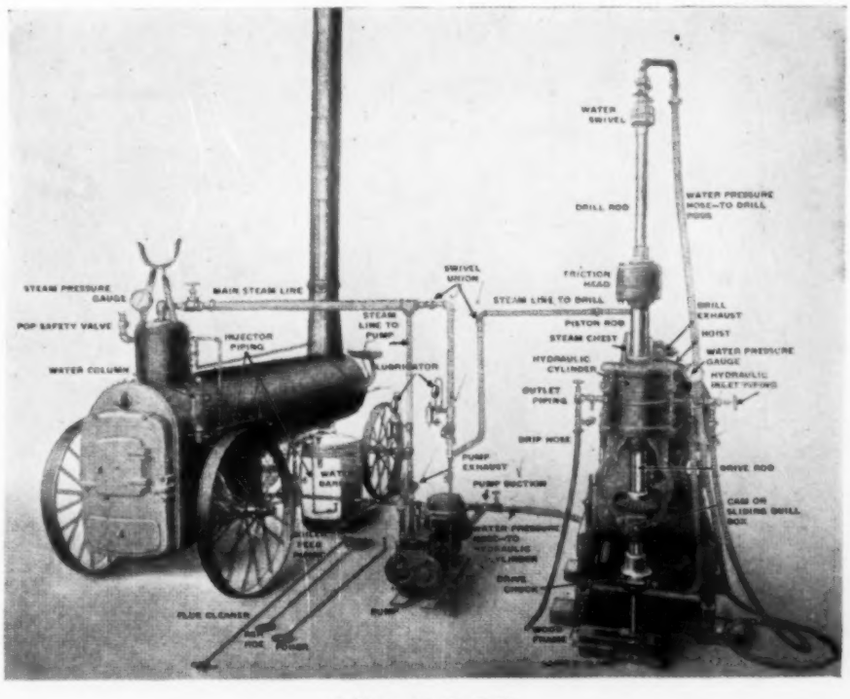
Capacities of the machines are 103 and 206 cubic feet of air per minute.

These machines have the compressor mounted at one end of the cast steel truck frame, with the electric motor close to the other. The air receiver is suspended in a horizontal position outside of the canopy top supports, at the compressor end, and a tank for circulating water is mounted above the air receiver. Water is circulated through the compressor jackets by a small centrifugal pump driven by a pulley, on the drive shaft between the motor and the compressor.

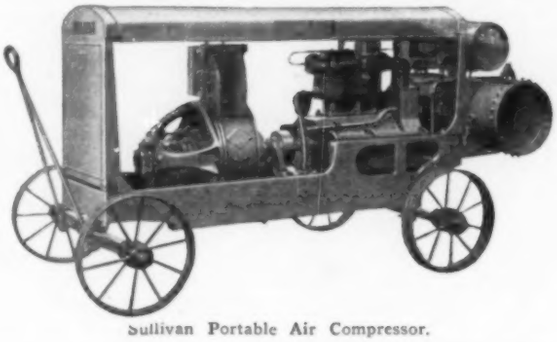
The rheostat and starting equipment are mounted on top of the motor casing.

The truck frame or body is a heavy and substantial one-piece steel casting.

The compressors are equipped with Protectomotor air filters, insuring a



Sullivan F. K. Drill.



Sullivan Portable Air Compressor.

supply of clean air to the compressor intake.

The outfits are protected from the weather and from tampering by sheet steel sides which are removed while the machine is in operation. These sides are padlocked in place when the machine is idle.

Trailer mounting for both outfits consists of special axles with rubber tired steel wheels equipped with Timken roller bearings. The springs are attached direct to the steel compressor frame by cast steel hangers and suspension links. The front axle is of truss construction, clamped to the front springs, and provided with knuckle steering mechanism, similar to that used on automobiles.

Complete descriptions of both outfits can be had by requesting copies of catalog No. 83-D, from the company.

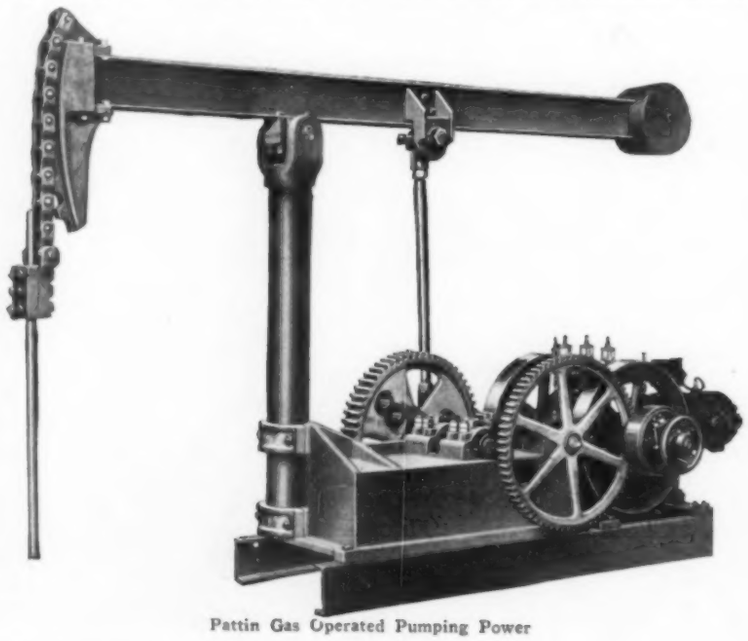
Pattin Pumping Power Gas Operated

The Pattin Brothers Company, Marietta, Ohio, are now recommending their new single well pumping power suitable for wells 2000 feet deep. This power is fitted with a new five horse power gas or gasoline engine, fully water jacketed with Wico igniter, and both gas and gasoline attachment.

The normal speed of the power is 20 strokes per minute. The stroke can be adjusted to 15-inch, 18-inch, 21-inch, and 24-inch. Two 100 pound counter balance weights are regular equipment and are made to form a box on top of the beam. This box can be filled with old iron to increase the counterbalance if necessary.

Both the engine and power are mounted on six-inch channels and are said to be easy to handle.

More information will be furnished by the company on request.



Pattin Gas Operated Pumping Power

Fuller Safety Hook and Stuffing Box

Among the specialties manufactured by the Fuller Machine and Forge Works, Santa Fe Springs, California, are two items which are giving unusual success in fields where they are used. These include the Rex safety hook and the Fuller stuffing box.

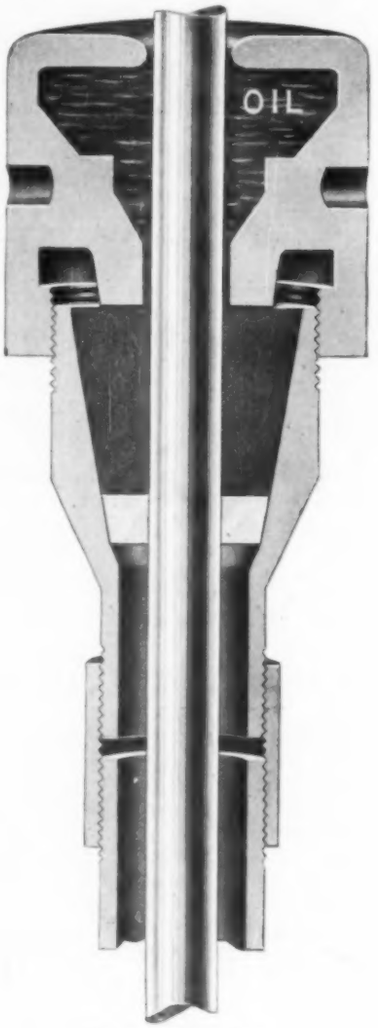
In the safety hook the outstanding feature is a latching member located in the center of the hook bore. This latching member works in connection with a hand operated releasing handle, located at the back of the hook.

The bale is secured to the cross head with cotter pins and washers which make it impossible for it to spread. This bale is of large spread and can be used on a tubing hook if desired.

The hook is made in two sizes, a large size for use on heavy outfits and a lighter hook for use on small derrick.

Stuffing Box

In the top of the Fuller stuffing box there is an oil container for lubricating the polish rod when the well is idling. The box unscrews in the center, leaving babbitt ring, rubbers and the top cap on the polish rod and bottom half on the tubing. This makes a swedge nipple and guide for rods to pull through and a rest for the elevator.

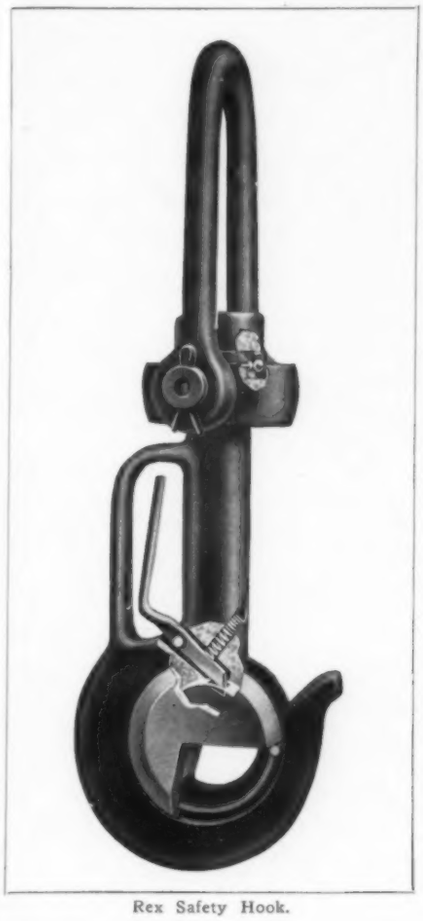


Fuller Stuffing Box.

Packing is automatic. Pressure of the fluid on the babbitt ring causes the rubber to expand, thus making tight packing joints. On the down stroke of the beam or when the well is flowing, the pressure is relieved causing the rubber to shrink away from the polish rod.

Parts of the box are interchangeable.

Information on both products may be obtained from the manufacturing com-



Rex Safety Hook.

pany, or from The Robert N. Atmore Company, 913 East First Street, Tulsa, Oklahoma. This company is the Mid-Continent distributor.

Campbell Duplex Tank Vapor Control

A device for use in connection with vapor recovery systems at refineries and tank farms to control the pressure in the tanks within definite and pre-determined limits has been designed by J. A. Campbell, a natural gas engineer. This device serves the double purpose of controlling the out-flow of vapor from the tanks to the gathering line and also controlling the return of gas to the tanks when the pressure within them falls below atmospheric.

It is said that the device, known as the Campbell Duplex Tank Vapor Control, protects the tanks against rupture under excessive positive and negative pressure. It also prevents robbing the commodity within the tank of light fractions by positively shutting of the connection to the suction gathering system when the pressure within the tank drops to about 0.5-inch water.

The designer also states that by returning the gas to the vapor space in the tanks when the pressure falls below atmospheric this device prevents the formation of an explosive mixture within the tank and thus absolutely prevents internal explosions from any cause. A circular has been prepared covering specifications and can be obtained from the designer by communicating with J. A. Campbell at P. O. Box 669, Long Beach, California.

Produce New Babbitt for High Speed Bearings

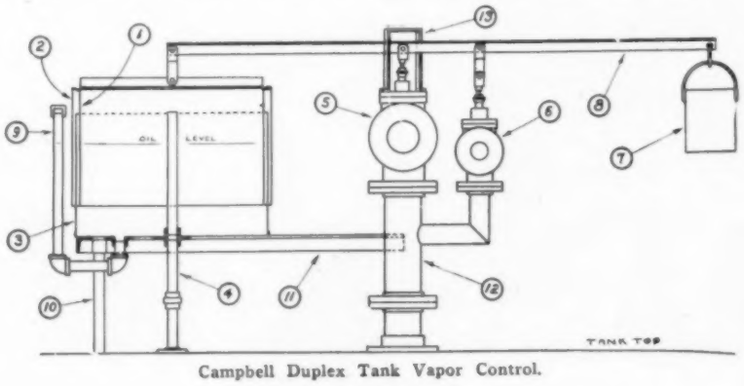
Through the introduction of an anti-friction element, the Federated Metals Corporation, 4041 Park Avenue, St. Louis, Missouri, is now manufacturing a babbitt, said to have exceptional wearing qualities, to be known as Liberty Motor Genuine.

This babbitt has withstood the most severe tests possible to impose on it, and is especially recommended for heavy duty, high speed machinery bearings. This quality makes it suitable for use in oil fields.

The natural anti-frictional element

eliminates the objectionable features that ordinary babbitt has when used in certain instances.

More specific information about the Liberty Motor Genuine, may be had through request to the company.



Campbell Duplex Tank Vapor Control.

Hollow Bit Cleanout Tool Is Success

The Stearns-Roger Manufacturing Company, Denver, Colorado, manufacturers of the "Hollow Bit" Cleanout Tool, recently put on the market, report gratifying success with performance of the device.

Hollow Bit Cleanout Tool

As claimed by the manufacturers the main advantages of the tool are that it will clean mud and paraffin from the well walls, thus freeing the oil flow, that it will eliminate the danger of bursting casing in cleaning out bridged holes, that it drills a round hole, and that being of special shape, it fills the hole and thus avoids wedge action.

This tool can be used for drilling short distances as well as cleaning out oil wells.

It consists essentially of two special bits; a four prong bit and a star bit, either of which are attached to a dumper chamber. On each of these bits is a flapper valve that traps the substance being cleaned out in the dumper chamber after the cleanout tool has been lowered into the well.

It is operated on the beam and being very heavy, can be used with or without a sinker bar. It drills its own cuttings.

It is operated on the same principle as any drilling tool. After running in the well for a short time, it is raised to the surface and the contents that have been forced into the dumper section are dumped. This is done by the simple process of rotating the outside sleeve of the dumper until the opening in the outside sleeve is opposite the opening in the inside sleeve.

Any other information pertaining to the tool can be had from the company. on request.

"Braymer" Ripper Rips Either Up or Down

The "Braymer" pattern casing ripper, manufactured by The Beard Foundry and Machine Company, Arkansas City, Kansas, is recommended as a good tool for ripping casing either up or down. It is also made as a combination tool so it can be used either up or down.

Additional information will be supplied by the company on request.

Special Core Barrel for Cable Tool Outfits

A core barrel especially adapted to cable tool drilling has been put on the market by the Baker Casing Shoe Company, Huntington Park, California. This device is said to be the first one to enable cable tool operators to take adequate cores.

In construction, the Baker Standard core barrel consists of a hollow drill barrel within which a hollow core tube is reciprocally mounted so that a vertical reciprocation of the drill barrel will drive the core tube over the core of the formations penetrated.

The drill barrel is composed of three essential sections — a head, main body, and core shoe. The drill barrel is fitted with a pin to screw into the box of the drill stem, and is threaded at its lower end, into the top of the main drill barrel. Circulation holes are provided which lead inwardly into a chamber, closed at the bottom, by a spring pressed back - pressure valve opening downwardly.

The core tube head is connected to the top of the core tube body and is larger in diameter than this body thereby forming a shoulder. Vertical grooves or splines formed in the surface of this head serve as water courses. A ball check valve allows the discharge of the drilling water trapped in the core tube as it fills with the core, passageways being provided for the valve chamber to the outside of the head.

The drilling shoe is made with a clearance at the cutting edge to allow the barrel to drop freely in the hole. The cutting teeth are spaced irregularly to prevent key seating and are tipped with a special alloy metal. It is connected to the lower end of the barrel with a special tool joint thread, and being smaller than inside of the barrel a shoulder is formed which prevents the removal of the inner core tube which has a shoulder at its upper end as mentioned.

The inner surface of the drilling shoe has water course grooves to allow free passage of liquid from within the barrel. The core tube shoe connects with the lower end of the core tube body and is made with a sharp bevel edge, also tipped with special metal alloy. A loose, split retaining ring is mounted on the inside near the cutting edge to pinch off the core and hold it in place.

Throughout the West, and through the Rocky Mountain section, the barrel has been used with gratifying success.

Bailer Saw Tooth bottom.

Special Bailer Bottom Shoe for Clean-Out Work

Operators will be interested in the Bailer Saw Tooth Bottom Bailer Shoe, designed by the Baker Casing Shoe Company.

This shoe was designed for the purpose of more quickly cleaning out holes where the formation is such that it will not break up small enough to go through the openings in a chisel bottom bailer. A series of sharp cutting edges, so shaped as to draw in the cuttings, the distinguishing feature of the new shoe.

The saw tooth bottom is well proportioned and made from a special steel which is heat treated to maintain its cutting qualities over a long period of use.

Baker Pull Back Jack Pumps Deep Wells

The Baker Pull Back Counterbalanced Pump Jack, manufactured by the Baker Casing Shie Company, is recommended for pumping wells as deep as 5000 feet. In fact it is claimed by this company that the jack will handle a well that deep with equally as much ease as a well 500 feet deep.

It is said that the efficiency of this jack is gained by the use of two pull rods which are hooked on opposite eccentrics, and by perfect counterbalancing. Any number of strokes per minute, varying from six to thirty-six inches can be obtained.

The well balanced design, rugged structural steel construction, bearings running in oil, make for smooth operation. The jack is furnished as a complete unit.

Additional information will be supplied on request from the company.

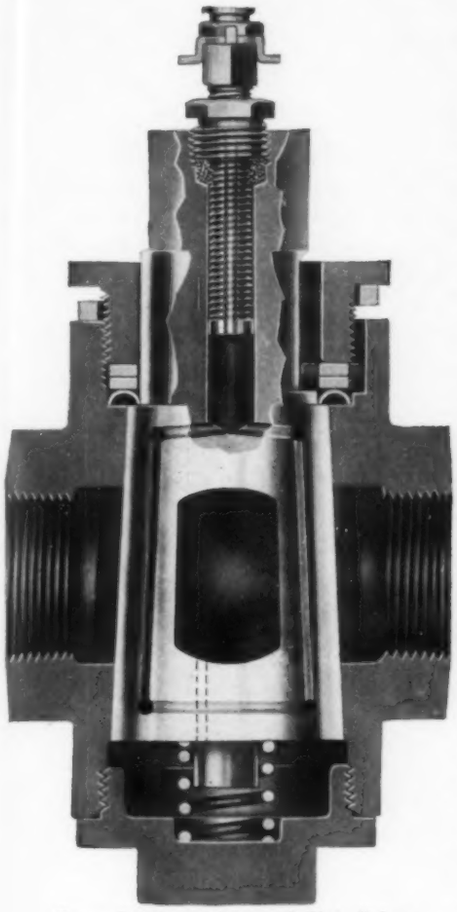
Lubricated Balanced Plug Valve

The Barco Lubricated Balanced Plug Valve, manufactured by the Baroc Manufacturing Company, 1801-1815 Winnemac Avenue, Chicago, is said to embody an entirely new departure in valve design.

The valve follows standard plug valve design in its straight way port through the valve and the tapered plug in the valve body. The lubricating and balancing features, however, keep it from sticking and at the same time, tight, under all conditions.

The valve is made entirely of metal without non-metallic packing or seats and the metals used are especially adapted for the service for which the valve is specified. The special kinds of lubricants are used to meet the different temperatures, pressures and service conditions and these lubricants come in handy pack-

Baker Pull Back Jack.



Barco Lubricated Balanced Plug Valve.

age form, ready for instant use. The pressure on the plug is balanced by means of a semi-circular ring, one side of which rests on the top shoulder of the plug and the other on a similar shoulder in the body. By tightening or lossening the gland, the pressure on the ring and consequently on the plug, is increased or decreased so that the internal pressure of the fluid or liquid is balanced and the plug turns easily. The valve is foolproof, because the plug tapers towards the top and the gland may be removed under full pressure, without causing leakage or damage.

The valve is provided with a convenient method of lubrication, which feeds the lubricant to the wearing surfaces and holds it there. The lubricant does not come in contact with the fluid pressures, and the lubricating chamber may be refilled without reducing the pressure or closing the valve.

A straight, full area passage is provided by a one quarter turn of the handle.

Further information will be supplied by the company upon request.

Carbon Dioxide Meter For Flue Gases

A carbon dioxide meter that should prove valuabe to combustion engineers, test departments, laboratories, etc., has lately been introduced to the trade by the Bacharach Industrial Instrument Company, 7000-6 Bennett Street, Homewood Station, Pittsburgh, Pennsylvania.

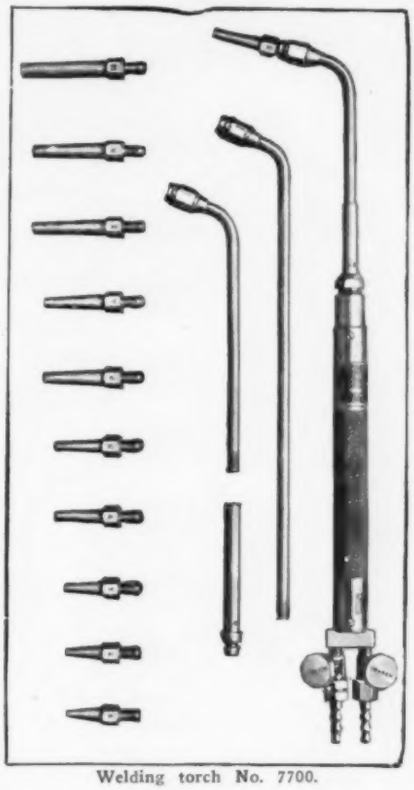
The instrument consists of a precision profile indicator at the top, below which is arranged from left to right, the bridge zero adjuster, a tumble switch and the variable resistance for current adjustment. To set the proper bridge current, the tumble switch is thrown into the upper position, this cuts the precision indicator into the circuit as an ammeter and the current is set to the top mark deflection by means of the variable resistor. Three standard dry cells are used as the current source and connected to the two binding posts in the lower left hand corner. When making temperature measurements, the tumble switch is thrown into the downward position, any standard thermocouple can be connected to the lower right hand terminals and the reading made on the millivolt scale. By means of a millivolt-temperature curve the temperature is determined.

For the analysis of flue gas the tumble switch is thrown into the center position. The gas is sampled by means of a hand aspirator which draws the gas through a small calcium chloride and cotton filter, which when not in use is conveniently held in the cover of the instrument as shown. The instrument is guaranteed to have an accuracy of one-half of one per cent CO_2.

The instrument can also be arranged to give continuous indications for short periods (2 to 3 hours.)

New Design Welding Torch Has Wide Use Range

In the latest design of welding torch No. 7700, brought out by the Air Reduction Sales Company, of 342 Madison Avenue, New York City, practically the ideal proportion for oxygen and acetylene consumption is said to be obtained.

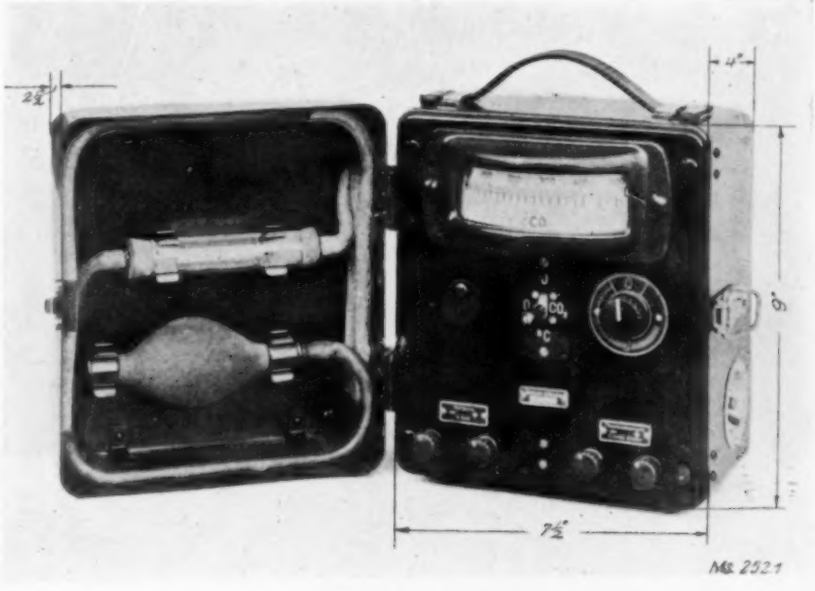


Welding torch No. 7700.

The various combinations that can be made with the extension tubes, mixers and tips illustrated make it a general or special purpose torch covering the full range of welding, from sheet metal to heavy forgings, castings or pipe line work.

More information can be had from the company on application.

Save this issue. It is valuable and you will have several occasions to refer to it during the coming year.



Carbon Dioxide Meter.

W-K-M Offers Wide Range of Specialties

In its efforts to accumulate a line of specialties with wide application to the oil industry, W-K-M Company, Inc., West Building, Houston, Texas, has added a number of items during the past year, all of which are meeting with the enthusiastic approval of field men. All these specialties have been tried until they are well past the experimental stage.

W-K-M Tubing Catcher

Tubing Catcher

The notable feature of theW-K-M tubing catcher is said to be that it functions at the instant the tubing parts. As tubing hangs in a well, there is approximately one inch of stretch to every 100 feet. When a string of tubing parts, this stretch is instantly contracted, in exactly the same manner as a rubber band contracts when both ends are released at once. As the contraction occurs, the tapered mandrel on the W-K-M tubing catcher is driven into the holding slips, which grip the casing sidewall and often catches the tubing before it begins to fall. Instances have been recorded where this catcher caught the tubing at a level several inches higher than it originally hung—due to the recoil or contraction of the tubing after parting. The catcher is substantially constructed.

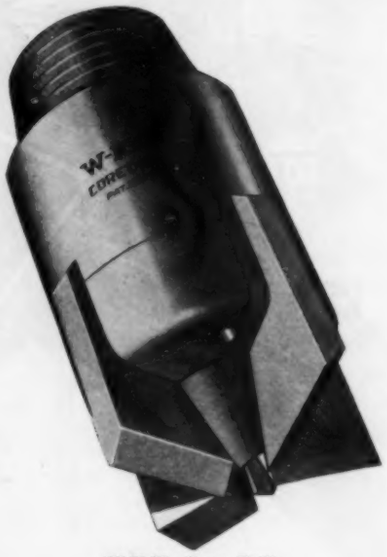
Cable Tightener

A remedy for loose guy wires is offered in the W-K-M spiral cable tightener. This simple device quickly fastens to the wire without cutting. A few twists, and the wire to which it is applied is tight. Each tightener spools five feet of cable—more than three or four average turn-buckles will take up. W-K-M spiral cable tighteners are made in two sizes. No. 1 spools ⅜ and ¼-inch wire, and No. 2 spools ½ and ⅝-inch wire. The device stays on the wire and may be tightened at any time with little effort.

W-K-M Swab

W-K-M Swab

In the W-K-M swab a ball and socket swivel joint prevents twisting and distortion of wire lines. Special shaped rubbers, with an automatic expansion feature, have demonstrated capacity for long and continuous service. Two recent runs, one of 70 hours straight and one of 40 hours straight, failed to wear cut the first set of rubbers used. One of these runs was made in the Panhandle, and one at Goose Creek. An automatic unloading valve determines the weight of the load picked up, and prevents wire line breakage and fishing jobs. Mechanical expansion of the rubbers, to take up wear, is quickly and easily handled. When necessary, rubbers can be changed in five minutes. The massive construction of the swab gives it greater weight than usual, and enables it to sink more quickly through the fluid, the manufacturers state. W-K-M swabs are furnished on order with any pin connection desired.



W-K-M Core Drill

Core Drill

Equipped with detachable, tool steel cutter blades, heavily stellited the W-K-M core drill is recommended for economical coring. The new tool runs on the end of the drill stem, and requires no special collar or outside barrel. The tool steel blades provide two-inches of wearing surface, and may be ground repeatedly on the rig emery wheel. Another feature of the new core drill is that the water courses direct the flow of water straight to the blades, thus enabling it to drill in gum-

W-K-M Spiral Cable Tightener

18 Days from the time the well was spudded until the 2250′ of 6⅝″ casing was set on top of the Sand —

That's the splendid record of a TICO 35 H. P. Drilling Engine in a nut-shell—Shows its got the stuff and the stamina to more than do its share in profitable hole making.

The men largely responsible for this excellent run are shown above. They are, Ole Berentz, Tool Pusher and L. B. Tinney, superintendent for the Bird-Hanley and Sheedy Drilling Company of Madison, Kansas.

Do they like TICO Engines? Well here's the answer. They have a battery of SIX 35 H. P. Ticos on the one lease.

See the Continental man for particulars.

The TITUSVILLE IRON WORKS Co.
TITUSVILLE - PENNA.

Titusville
Acme Boilers
Single and Twin
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Tico Gas Engines
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Crown Blocks
Slush Pumps

RUGGED - ENDURING

my formations without balling up. The drill is so light it can be carried on horseback, if necessary. The 5⅞-inch size weighs approximately 100 pounds complete with sub. The new core drill is furnished in three sizes, and each size cuts a full sized hole.

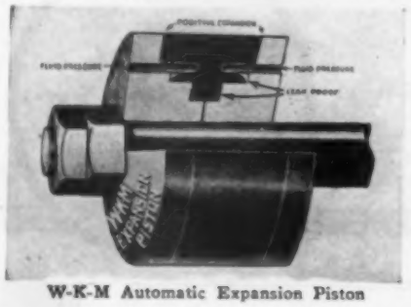
W-K-M Senco Gauge Tape

Automatic Expansion Piston

The W-K-M automatic expansion piston, as its name implies, is a replacement piston offered for many standard makes and models of slush pumps. Having a piston rubber which automatically expands on the edge on which pressure is applied, this piston is said to preserve perfect contact with the liner at all times, keep it swabbed smooth and prevent sand from lodging between piston and liner in such a way as to score the liner. One rubber is used for each piston. It is specially reinforced to withstand hard usage. Wear is automatically taken up by pressure applied to the rubber. W-K-M automatic expansion pistons are made in 5¾-inch size for A. W. & P. Gumbo Buster, Lucy Special and Lucey Rex, Jr., slush pumps. They are also made in 5⅞-inch size for Oil Well Supply slush pumps. The largest size, 6¾-inch, is especially for Union Tool Ideal, National, A. W. & P. Gumbo Buster, Lucey Rex, Oil Well Supply Giant Mud Hog and Titusville Acme slush pumps.

Pipe Straightening Machine

The W-K-M pipe straightening machine is a portable hydraulic, hand power pipe straightening machine built to striaghten or bend any kind of pipe up to and including eight-inch. The machine is mounted on 12x12-inch pipe log, which in turn is mounted on 4x6-inch skids. This enables the machine to be moved very readily, either by skidding over the ground, or on a light truck. The machine develops a pressure of 30,000 pounds with one man on the handle of the hydraulic pump, more than enough to straighten or bend the heaviest 8-inch pipe, or Kelly joint. Red engine oil is employed as a fluid, and a special circulation system takes oil from a reserve tank and pipes it to the cylinder when the hydraulic pump is operated. A quick acting globe valve returns the oil to the reserve tank, and the pipe shoe and ram to an upward position when opened. Two men with this machine can straighten 60 or 70 joints of pipe a day, and do a perfect job, the manufacturers claim. It weighs 1275 pounds, with log and skids.



W-K-M Automatic Expansion Piston

Gauge Tape

The new W-K-M Senco tape is entirely enclosed in a water-tight aluminum case, and when spooled up, two fibre wipers automatically clean it off.

The tape is 50 feet long, and is graduated to one-eighth inch. Materials used are of the finest, and the tool should last indefinitely with reasonable care. A heavy brass plumb bob, also graduated in one-eighth inches, is furnished with each tape. A handy clip enables the bob to be disconnected from the tape at will.

Polished Rod Rotor

By rotating the polished rod steadily and evenly in a clockwise direction, one complete turn every 15 or 20 strokes of the jack or beam, the W-K-M Polish Rod Rotor performs a service which is claimed to save its price several times over in the period of a month. The clockwise rotation naturally keeps all rods screwed up tight, thus eliminating trouble from this direction. By turning the plunger and cups slightly at each stroke, these parts are kept ground in perfectly, and are always round. A grain of sand or other substance can not lodge under a cup and groove either the cup or the barrel, or both. Such grooves shorten the life of cups, emulsify the oil and lower pumping efficiency. By keeping cups, plungers and working barrels in round, the necessity for pulling wells is greatly reduced. On one lease having 60 wells, all equipped with W-K-M Rotors, pulling was reduced about 75 per cent. The rotor also keeps polished rods and stuffing boxes in perfect round. All W-K-M Rotors, both of the Universal and Oklahoma Jack Type, are equipped with friction clutches which prevent twisting rods off in event of sticking. A gentle pressure is maintained which frees them in most cases. The cut shows the Universal Type of W-K-M Polished Rod Rotor.

W-K-M- Polish Rod Rotor

Pipe Laying Boom

Capable of laying as many as six joints of 16-inch pipe per minute un-

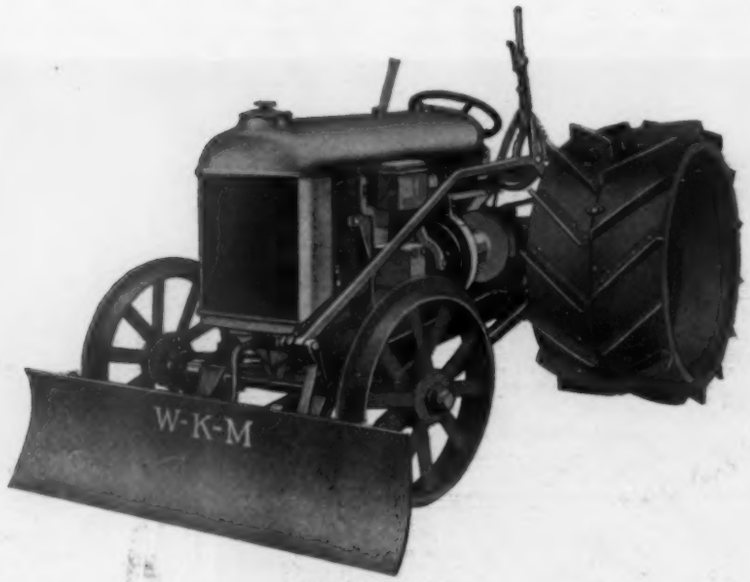
W-K-M Pipe Laying Boom

LUCEY MANUFACTURING CORPORATOIN

CHATTANOOGA, TENN.

Export Department: Woolworth Building, New York City

Distributors: Lucey Manufacturing Corporation of Tennessee, Mid-Continent General Office and Central Warehouse, Tulsa, Okla., with branches at Tonkawa and Healdton, Okla. T. T. Word Supply, Houston, Texas, Shreveport, La. Bradford Supply Company, Wichita Falls, Texas. International Supply Company, Stroud, Garber and Wewoka, Okla.



W-K-M Bulldozer

der favorable conditions, and of performing the work of 16 to 20 laborers under all conditions, the W-K-M Pipe Laying Boom, recently introduced to oil and gas pipe line men, has already assumed a position of considerable important on many major pipe line jobs. The fact that three men, an operator, a hook man and a stabber, can replace the twenty or more men ordinarily required to lay 16-inch pipe, permits of economies and speed of progress heartily welcomed by pipe liners everywhere it has been demonstrated. The further fact that the 12,000 pound capacity side winch which operates the boom, will fill a mile of ditch a day pulling a six-foot mormon board, makes the outfit doubly valuable. Its ability to bend pipe, pull river, creek, road and railroad crossings, makes it almost indispensable to modernly equipped pipe line crews. The boom is also very valuable for unloading or loading heavy material from wagons or trucks, for lifting and handling sections of welded pipe, and for lifting and carrying heavy valves or other material from place to place as needed.

W-K-M Bulldozer

Having a maximum backfilling capacity of 7½ cubic yards of dirt per minute under favorable conditions, and the capacity to fill at least a mile of 24x36-inch ditch a day under almost any conditions, the W-K-M Bulldozer is offered to pipe liners as a fit companion to the W-K-M Pipe Laying Boom and the W-K-M Fordson Side Winch. The W-K-M Bulldozer was first developed under compulsion of necessity, to enable the completion of a long pipe line job from Wyoming to Missouri in contract time. It proved effective on the first 200 miles of ditch filled, and the original machines have since been used to fill more than 2000 miles of open ditch. The machine is also efficient for slush pond filling work, and for many kinds of road work, such as leveling and distributing dirt. When supplemented with a W-K-M side winch and mormon board, it is claimed that the outfit will backfill open ditch under any conditions.

Improved Alidade for Use in Geological Work

The new Gurley Explorers Alidade, recently announced is the result of extensive investigations among representative geologists and topographers in all branches of the work. Everything possible was done to find out from men in the field what alidade characteristics were necessary to map more accurately, easily and quickly.

Special features of this alidade include improved optics, magnification choice, positive adjustments, leaf tangent springs,, long striding level, vernier control level, non-tarnishing parts new light materials, adjustable gradienter, attached microscope, new compass box, and finder sights.

To insure accurate and permanent adjustment, the axis bearing of the telescope is cylindrical, so that when its clamp is loosened for rotating 180 degrees when adjusting line of collimation, the telescope can be moved slightly backward or forward, without voiding the adjustment.

Platinum cross and stadia wires show fine black lines which do not sag in damp weather. A quarter-interval wire is regularly placed in the upper field.

The importance of accurate leveling has been recognized in the elimination of spring adjustments for the longer striding level and the new vernier control level. Both levels have protected vials, the striding level with a rotating shield and the control level with a spring bumper. For the convenience of the user, all field adjustments are made with the adjusting pin, rather than with a screw driver.

A rigid and accurately centered vertical arc includes divisions to read vertical angles to single minutes and also the Beaman Stadia Arc graduations.

The new alidade is largely made of a light metal alloy which is three times as strong as bronze and only half as heavy.

Correct orientation is assured by the needle being mounted upon an exceedingly fine pivot point. The needle is provided with a balancing wire on its south end. Since the dip of the needle varies, it must of necessity be a field adjustment in each locality to bring the needle level so that accurate readings can be taken.

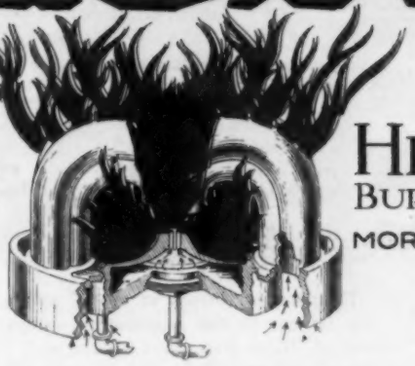
Flat leaf springs, which cannot be jammed by dust, are used on the tangent motions.

The gradienter is so designed that it can be adjusted to read as accurately as it is possible to read a target with the telescope. This adjustment enables the user to replace a worn screw thread and make the adjustment himself.

Further information and literature will be provided by W. & L. E. Gurley, Troy, New York.

W-K-M Portable Pipe Straightener

Red Devil



SUPER DISTILLATE LESS OIL

HEAT BURNERS MORE HEAT

Combined With the

RED DEVIL AUXILIARY GAS BURNER

Burns Oil or Natural Gas—For Your Home or for the Lease—Can be installed in any ordinary stove, furnace or boiler.

Office
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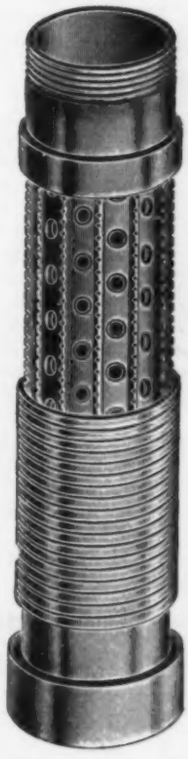
Phone Market 6147

Manufactured by
Red Devil Burner Company
P. O. Box 71 Wichita, Kansas

Shop
200 North Waco
Phone Market 189



You'll Get MORE Oil Through—

STANCLIFF

Patent

WELL SCREEN

—And you'll get it with less trouble than with any other strainer. Yes—we know that we're making pretty strong claims, but we're ready to prove them to YOU in your very next well.

Because—

—Stancliff Patent Well Screen gives a screening surface as large as your pipe (not a square inch is wasted).

—It can be washed more thoroughly and cleaned out more easily than any other screen.

—Ribs are placed lengthwise of the pipe, leaving plenty of space for oil to flow through perforations after screening.

—These ribs strengthen the pipe more than the perforations weaken it.

Write for Prices and Samples

Howard Smith Co.

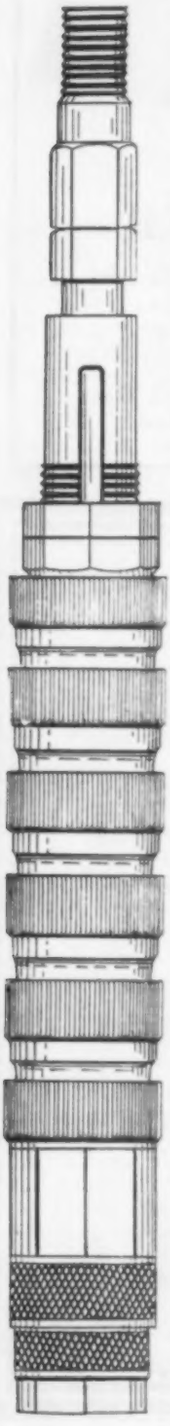
Manufacturers of Break-Out Tongs, Packers and Set Shoes

806 Walnut St., Houston, Texas

Positive Seating Insured in P. & H. Valve

The P. & H. Valve, manufactured by the P. & H. Valve Company, 320 West First Street, Oklahoma City, Oklahoma, involves a new principle of construction in that it has no ball. This feature, it is claimed, insures positive seating. All the pressure exerted by the column of fluid contained in the well barrel rests on the valve seat, forcing out paraffin and other foreign matter which tends to hold the seats apart.

The valve is composed chiefly of two main parts, the valve stem and the valve barrel: the stem is of one piece construction with no threads at its lower end. The lower end is larger than the inside diameter of any of the other parts, thereby making it impossible for any loose part to pass over the lower end of the stem and fall into the well.



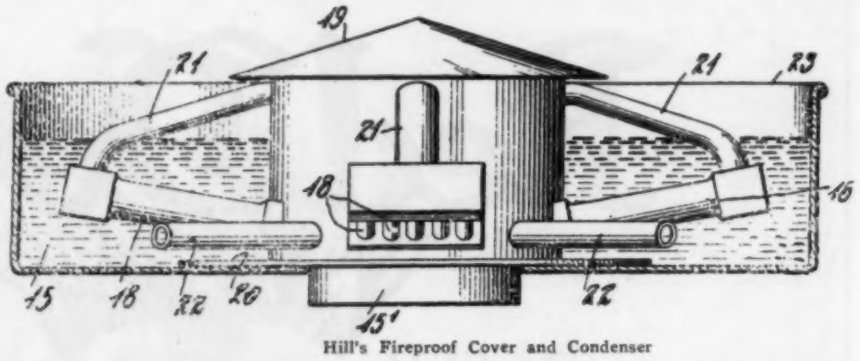
The valve barrel is made from a solid one-piece seamless steel tubing. Sharp angles and rough places are removed to eliminate any obstruction or cutting action on the oil. Near the upper end of the valve barrel is a series of oblong slots permitting the oil to pass freely through the fluid in the well barrel preparatory to its upward stroke.

The valve seats are made very hard and are ground on a 45- degree taper. They may be reground "in" from time to time until the valve is completely worn out.

The valve stem is threaded at its upper end only to receive a lock nut and the sucker rod connection. The lock nut is used for locking the sucker rod connecting member.

All parts on both the valve stem and valve barrel are assembled from the upper end.

More detailed information will be supplied by the company, on request.



Hill's Fireproof Cover and Condenser

Condenser and Tank Cover Reduces Evaporation

Evaporation losses in stored crude oil can be cut to the minimum through the use of Hill's Fireproof Cover and Condenser, being sold by the Fireproof Tank Cover and Condenser Company, P. O. Box 882, Tulsa, according to the manufacturer.

The cover and condenser can be installed on any tank. Its main feature is a copper condenser eight feet in diameter and eight inches deep. The condenser is placed at the apex of the tank and the whole roof is then covered with an asphalt roofing, cemented to the tank and made gas tight, thereby forcing all gases to pass through the submerged copper tubes. This condenses the gasoline and returns it to the oil in the tank. The fixed gases that cannot be condensed are forced to bubble up through the water.

Additional information may be had by writing the company.

Hydraulic Motor Attains Remarkable Speed

A hydraulic motor said to be capable of developing almost unbelievable speed has recently been patented by W. P. Denny, 7106 Avenue E, Houston, Texas. The motor has been tested by Rice Institute, Houston, and received a favorable report.

The motor is fastented to the lower end of the drill stem and a specially constructed bit is fastened to the driver shaft of the motor. Water pressure is furnished by a pump.

A water line through the motor and bit provides water that cools the bit and removes cuttings.

The inventor claims that many thousand revolutions per minte can be obtained, enabling the bit to cut a very thin slice of earth or rock which will be so fine that it will mix with the water, making sufficient mud to wall the sides of the hole.

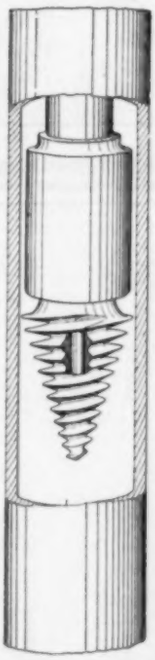
A core taking device is a part of the bit and cores can be taken by means of compressed air at any desired depth.

The report made by the Rice Institute is given below:

The motor was fitted for use on 1-inch pipe. It contained 16 nozzles directing the water onto a rotor with radial blades and ball bearings. The shaft was equipped with a cast iron disc 2-5/16 inches in diameter by about 1 inch thick which served as a brake wheel.

The motor was first connected to the water mains at Rice Institute, which supplied water at a pressure varying between 54 and 55 pounds per square inch. Its speed was tested with a Schaeffer and Budenburg centrifugal hand tachometer, recently calibrated. When running light, the motor exceeded 3000 revolutions per minute, the maximum speed for which the tachometer is suited.

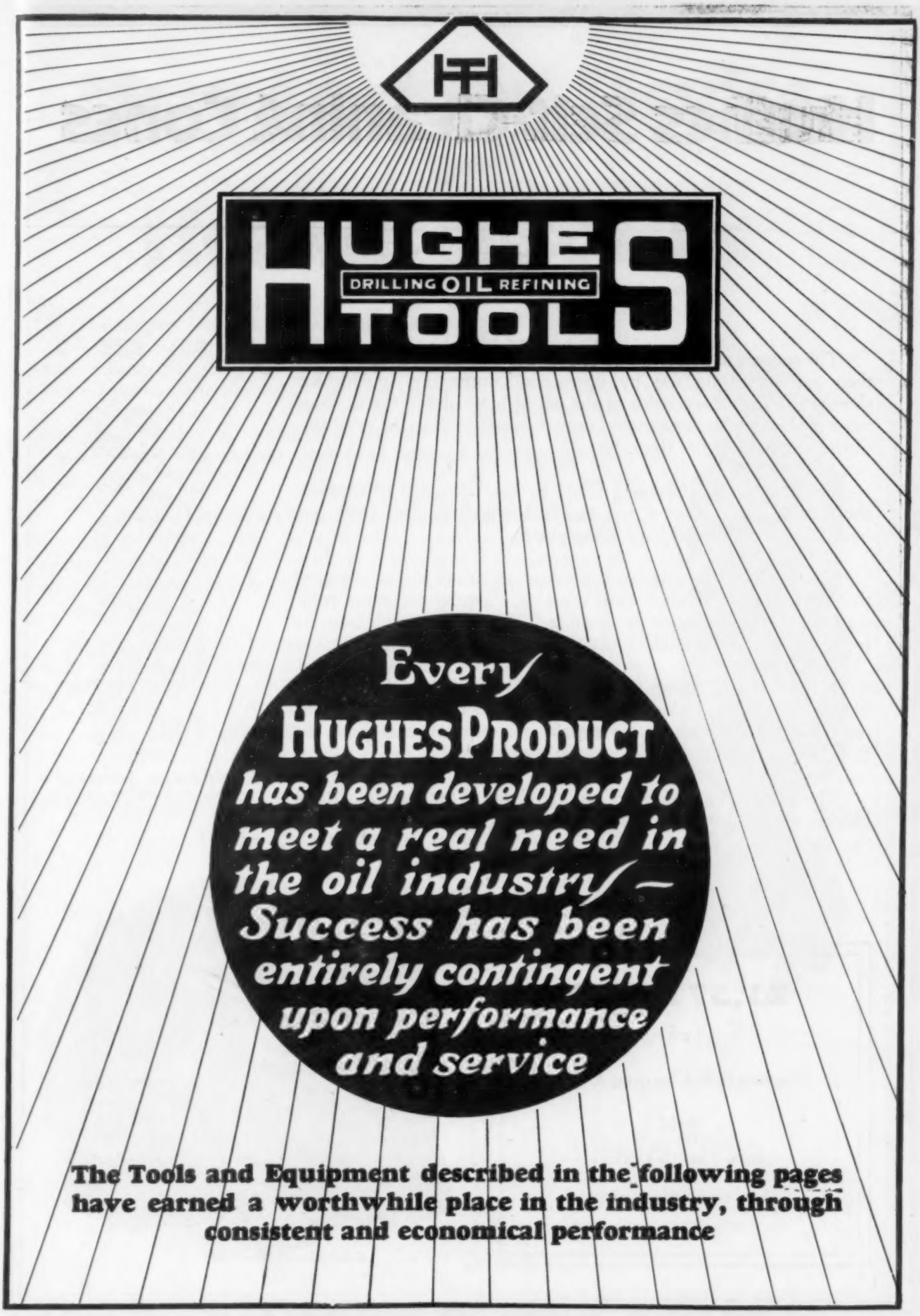
Loads were applied by a simple rope brake and pressures were taken with accurate gauges. The speed was found to vary about 200 revolutions per minute above and 200 revolutions per minute, below an average speed, this average decreasing as the brake load increased. The horsepower developed is given in the following table.



By connecting the motor to the discharge of a duplex pump, higher pressures in the water supply were secured. This pressure was of necessity pulsating, varying about ten pounds above and ten pounds beiow the average. The speed of the motor under this varying pressure did not vary much, if any, more than when supplied with a steady water pressure. The horsepower developed at 120 and 150 pounds average water pressure are given in the table.

At the heavier loads, it was found necessary to start the motor under a light load, then apply the heavy load after the rotor had reached a good speed.

Avg. water pressure	Rev. per minute	Brake horsepower.
54	1500	.07
	2200	.128
	2400	.112
	2700	.126
	3000	.142
120	3000	.244
150	3000	.304
	2800	.318


HTH
HUGHES
DRILLING OIL REFINING
TOOLS
Every
HUGHES PRODUCT
has been developed to meet a real need in the oil industry—
Success has been entirely contingent upon performance and service
The Tools and Equipment described in the following pages have earned a worthwhile place in the industry, through consistent and economical performance

Hughes Self-Cleaning Cones

—an improvement that has meant much to the Rotary Method of Drilling

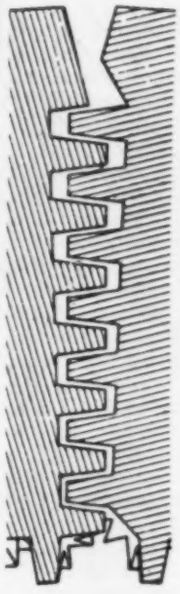
The successful performance of Hughes Self-Cleaning Cones and their ever increasing use by operators, contractors, and drillers throughout the rotary fields of the world have placed the development of this cutting cone second only in importance to the invention of the original Hughes Rock Bit.

The Hughes Self-Cleaning Cone was not designed to supplant the Hughes Hard Rock Cone, but to successfully drill chalk, anhydrite, sticky lime and hard sticky shale.

The teeth of the Hughes Self-Cleaning Cones are so designed that they clean each other while rotating, allowing maximum penetration into the formation at all times. The teeth on each cone are formed in concentric circles and so spaced as to intermesh.

Hughes Self-Cleaning Cones are used on the regular Hughes Simplex Rock Bit, making is necessary to have only one bit head on a drilling well where the formations are such that both the Regular and Self Cleaning Cones are needed.

The price of Hughes Self-Cleaning Cones is the same as that of Hughes regular hard rock cones.



Note how the teeth intermesh, removing all sticky formation

"Leadership"

21,571 SETS

of

Hughes Self-Cleaning Cones

Sold

In 6 Month Period

(May 1st to October 30th)

Side Elevation of Bit

New Locking Device for Hughes Disc Bits

The Hughes Disc Bit, originally designed for rather soft, yielding formations, has been called upon more and more to handle the harder formations often encountered in rotary drilling. To meet this extra duty, the pin design has been changed to provide for a 40 per cent increase in the length of the bushing thread to effectually prevent stripping. In addition, the pin is protected from excessive wear by the locking screw head, which can be replaced at nominal cost.

The bushing thread is left hand as before to keep the bushing always tight while drilling. A right hand internal thread in the pin allows for the insertion of a locking screw, which in conjunction with the lock washer furnished with each set of discs, prevents accidental loosening.

After making up the locking screw tight on the lock washer, the latter can be deformed with a hammer and chisel so that ears on the washer are depressed into slots provided in the head of the bushing nut. Raised beads on the surface of the lock washer index with holes in the head of the locking screw so that once these parts are made up tightness is assured while drilling. The locking together of a right hand and left hand thread prevents the possibility of unscrewing.

With this new locking device, wear on the bit head is minimized.

Hughes Disc Bits are now equipped with a removable bronze bushed water pipe which eliminates cutting of the bit head by the fluid.

"Leadership"

10,118 SETS

of

HUGHES DISCS

Sold

In 6-Month Period

(May 1st to October 30th)

Hughes Gate Valves and Fittings

of Cast Chrome Nickel Steel

The demand in the industry for Hughes Gate Valves and Fittings has increased to such an extent that the plant used for their manufacture has been greatly enlarged.

In the manufacture of Hughes Gate Valves, the chief aim is to give to the industry a valve of extra strength, but of no additional weight. This has been accomplished by using heat treated Hughes Chrome Nickel Steel.

The construction details of the Hughes Gate Valves and their advantages are as follows:

1. The large stem reduces the danger of breakage, while the Acme thread resists wear.
2. All parts, including the gate, are made interchangeable.
3. Ends are threaded to accurate taper and thread form to insure a tight joint.
4. Replacement and adjustment of packing is facilitated by the use of swing bolts and accurately machined gland.
5. The packing and gaskets will not deteriorate in case of fire or with age. The endless ring packing of the type used around valve stem will hold the gas or oil pressure without undue friction. Tongue and groove flange facings prevent gaskets blowing out.
6. Seats in the body and on the gate cannot leak because they are integral parts of the casting. They are oversized to protect them from damage by tools and bailer.
7. The gradual taper of "runway" and absence of projecting shoulders allow the fluid to pass through without the formation of eddy currents which would rapidly cut the metal.
8. The gate is accurately guided in the body to prevent contact until closure.
9. Each Hughes Valve is tested for leaks at twice the working pressure. In addition the gate is opened while under pressure, and a shock test also made before the valve passes inspection.

Section of Valve Body Casting Showing Bending Quality of Steel

Hughes Rock Bits

now equipped with

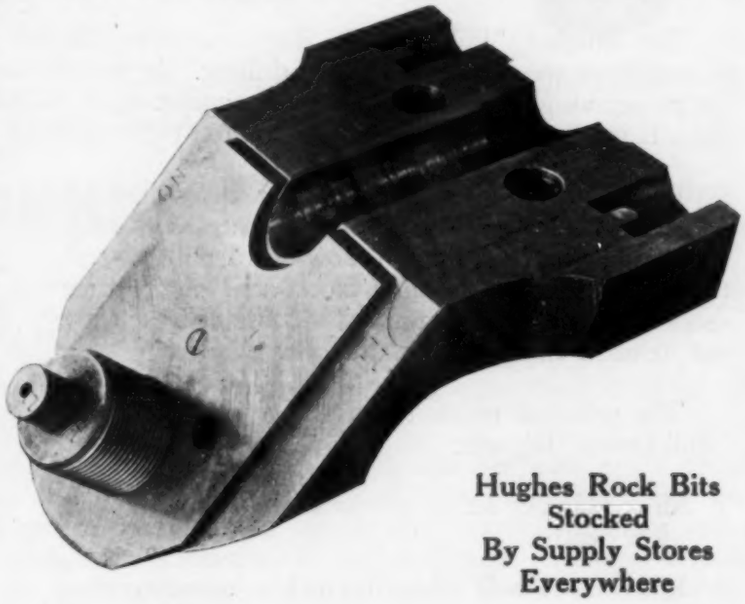
"Apron" Washers

An improved cone washer designed to prevent wear on the head of the Hughes Simplex Rock Bit is another improvement now several months in production. Marked economy has resulted from its use, aside from the added strength it possesses.

Instead of having a circular contour this new washer is more nearly rectangular in shape and provides protection for the head against the cutting action of the jet of mud above the cones. The improved washer is made to fit the Hughes Simplex Bit head without change and extends from the pin up to the crotch of the bit where allowance is made for the passage of flushing fluid.

(At present only the 11-inch size has been in production but other sizes of the improved design will come through shortly.)

These washers are hardened on the cone side only, thus leaving a tough back which prevents accidental breakage.



Hughes Rock Bits Stocked By Supply Stores Everywhere

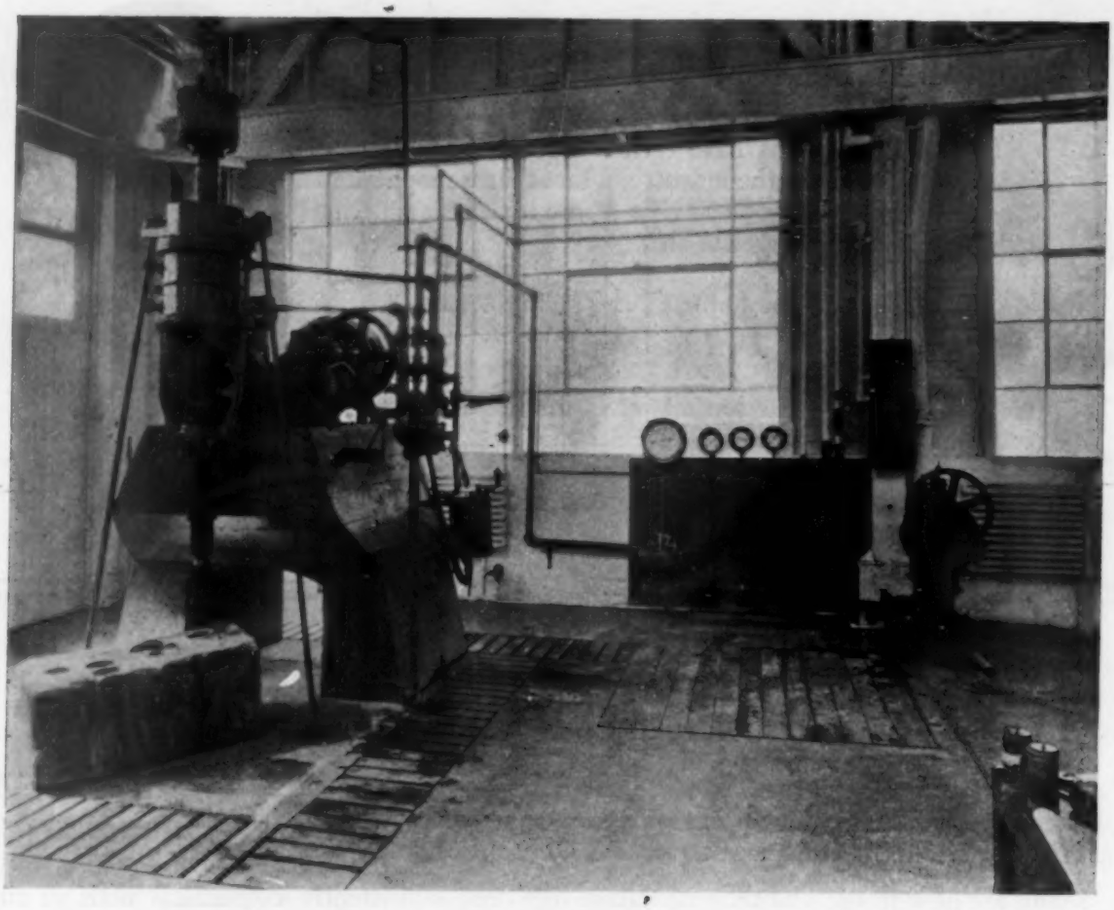
The Hughes Triplex Reamer

The Hughes Triplex Reamer is manufactured of Hughes Chrome Nickel Steel, especially heat treated to give maximum strength and wearing ability.

The six reamers (two lines of three reamers each) make three point contact, and are spaced 120 degrees apart.

This reamer is especially serviceable when used with a Hughes Milling Tool, side tracking or milling out casing, as it maintains alignment and gauge of the hole. It should also be used behind a fish tail bit when final reaming of the hole in preparation of setting casing where clearance is limited.

There is practically no wear on the reamer head and the reamers are easily replaceable.



The Hughes Hydraulic Rotary Testing Machine

– a part of the complete Hughes Laboratory

Realizing the need of precise information concerning the action of our rock bits when drilling in hard formations, we built the hydraulic rotary testing machine illustrated above. This machine forms a part of our laboratory equipment for the testing of Hughes products.

We are equipped to make tests on any kind of rock, and if cores are submitted to us we sometimes can offer valuable suggestions for the handling of our rock bits in the formation in question.

Complete information and prices of "Hughes Tools" furnished on request

Hughes Tool Company

Service Plants:
Los Angeles, Calif.
Oklahoma City, Okla.

Main Office and Plant:
HOUSTON, TEXAS

Export Office:
New York City

Say you saw it in The OIL WEEKLY

Long Horn Gas Burner

Burner for High and Low Pressure Gases

The Long Horn gas burner for low and high pressure gas, manufactured and sold by the Garber Tool and Supply Company, Garber, Oklahoma, is a product of proven merit. The burner has been used with success since it was introduced to the trade a short time ago.

This burner is operated by steam injected into the mixing chamber in a flat stream that throws a ribbon of flame into the fire box, at least 10 inches wide, and generally wider.

One burner will fire, it is said, two boilers on evaporation from a 500-barrel tank with eight ounces pressure. With proper adjustment, any desired firing condition can be obtained from a light or heavy fire in the fire box, to a light or heavy flame in the flues.

Further information may be secured by writing the company.

Vibration Minimized in "New Way"

An air-cooled engine specially suited for electrical work is being produced by the "New Way" Motor Company, Lansing, Michigan.

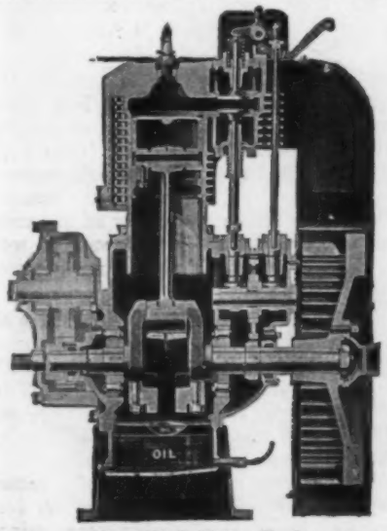
Particular stress is laid on the absence of vibration and the engine's close governing, which is essential in electrical work.

Fuel economy, light weight and compactness, which mean easy portability and lower cost of installation are outstanding features, claimed by the manufacturers.

The outfit is used by the Marco Light and Power Corporation to equip its portable light generating plants.

The engine is also said to be ideal for general powering, including the pumping of oil wells. Being air-cooled, it is suited to extreme temperatures.

Bulletin No. 26 describing the engine can be had upon application to the company.



"New Way" Motor Engine.

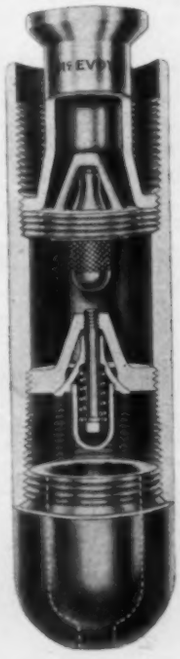
McEvoy Screen Made With Steel Plugs

J. H. McEvoy and Company, well known screen manufacturers of Houston, have recently added to their line of equipment improvements in the screen as well as a new set shoe assembly and a new type bailer.

In order to obviate, as much as possible, the cutting action of certain oil sands in high gas pressure wells McEvoy Wireless Well strainers are now equipped with case-hardened steel plugs. These steel plugs are made in meshes 10 to 100 and have met with much success wherever used, as it is readily seen that accurately cut meshes in hardened steel plugs present the nearest perfect strainer openings possible in order to resist the cutting action of the sand.

Set Shoe Assembly

The new set shoe assembly is equipped with one or two back-pressure valves of improved design.

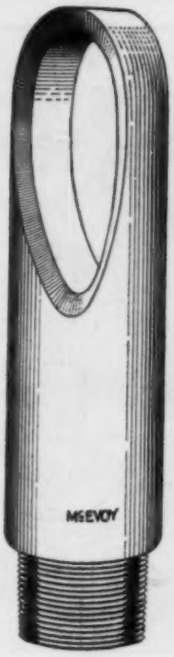


McEvoy Set Shoe Assembly.

These valves are of the tulip stream line type. Cages, holding the valves, have rounded corners with a larger area than the valve area when wide open.

The springs and the stem are enclosed against injury in a housing filled with grease. The spring automatically keeps the packing sealed against the valve stem.

Assemblies are made in the following sizes: 2½, 3, 3½, 4, 4½, 4¾, 5-3/16, 6, 6¼, and 6⅝ inches.



Bailer

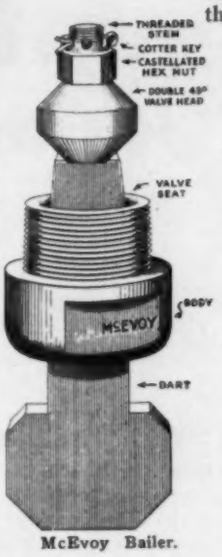
The bailer comprises a sturdy top with looped bail in one piece, flush pointed, to be fitted to upset flush jointed seamless pipe of any length desired, and a bottom valve flush-jointed in a similar manner.

The bottom valve, besides being detachable for examination, repair and replacement, has a reversible valve head, and both head and seat are case-hardened. Flats are milled into the valve body for easy removal.

The bailer can be disassembled for transporting to a new location, with but little difficulty. Flush jointed construction eliminates much of the danger of the bailer catching in the hole. It also affords a larger diameter and capacity from small holes. Upsetting of pipe where flush joints are made takes care of the strains entailed through bailing crooked holes.

These bailers are made in all sizes.

Additional information can be secured from J. H. McEvoy & Company, Houston, Texas.



McEvoy Bailer.

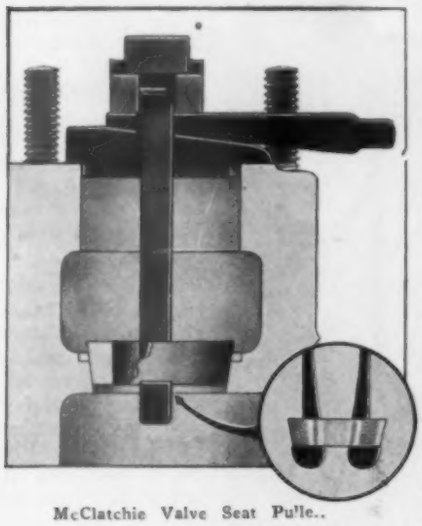
MacClatchie Company Has New Valve Seat Puller

A valve seat puller and the MacClatchie Quick Change Heads include new equipment developed by the MacClatchie Manufacturing Company, Compton, California, recently.

The manufacturers claim that the valve seat puller will last indefinitely, since there are no threads to strip.

To operate the puller, the pump should be installed as shown in the accompanying cut and the top wedge should be driven in with a sledge hammer.

Speed of operation, simplicity of construction and the easy manner in which they are handled, are some of the ad-



McClatchie Valve Seat Pu'le..

vantages of the MacClatchie quick change heads used for cementing, circulating and capping wells.

To operate, the change head should be inserted in the casing, the nut screwed to the right about two turns, after which it is ready for pressure.

To remove, the nut should be screwed to the left to the top of the threads. The head should drop down so that the bottom of the nut is against the ball race. In this position the head is ready to take out and should always be lifted out by the chain fastened to the lid.

Additional information on both items can be had by inquiry, from the MacClatchie Manufacturing Company, Compton, California.

Butler Steel Building Has Wide Span

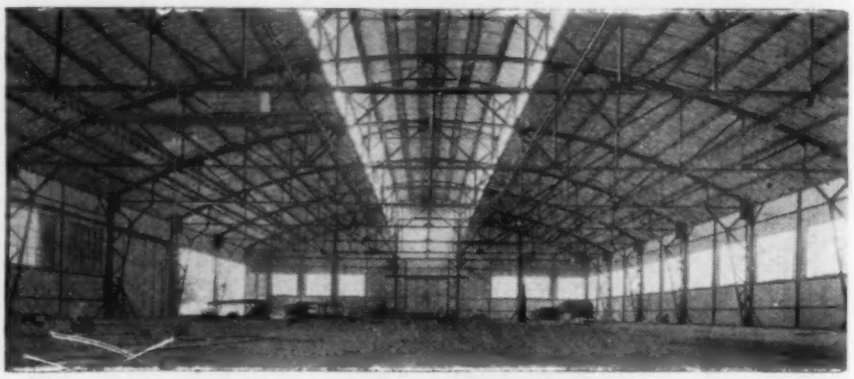
Two new types of metal buildings have been developed by the Butler Manufacturing Company, 1324-26 Grand Avenue, Kansas City, Missouri, designed especially for oil field service.

Sometimes it is necessary for the storing of equipment that the building be constructed with a clear span. The round roof building recently designed by the engineers of the Butler Manufacturing Company permits the use of all the floor space. No posts of any kind are used for center supports.

This structure is one type of the Butler Ready-Made Steel Buildings and can be used for clear spans up to 100 feet in width and any length desired.

The rise of the round roof at the middle is equal to one-eighth of the span. There are four-angle reinforced truss posts. They are furnished with or without monitor. The walls, roof and doors are made of 24-gage galvanized steel. The body and roof sheets have deeply drawn paneled corrugations and come in 2-foot units. Windows are of the ventilating or stationary type.

Like the increased demand for steel derricks so has there been within the last year especially, an increased demand for a steel building. To take care of this demand, the Butler Manufacturing Company has designed a Butler Ready-Made Steel Power House. This steel building is fire-proof, lightning-proof when properly grounded and can be made portable when desired.



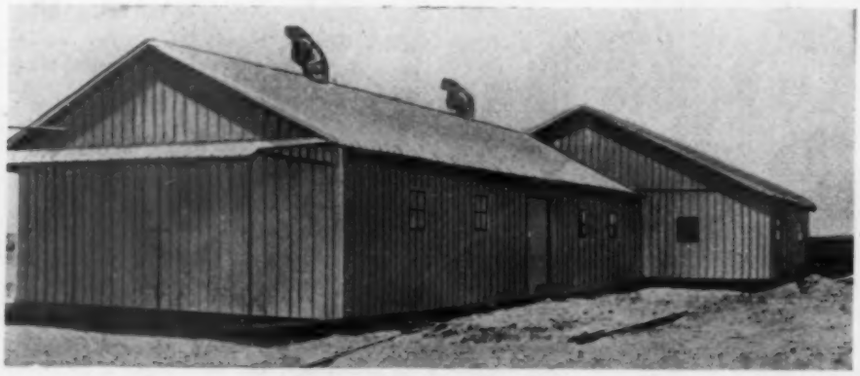
Butler Steel Building.

Like the steel derricks they have a clean cut pleasing appearance. In addition they are weather-proof and easily erected.

They also protect the belting and machinery around the drill rig from the sun and bad weather.

Twenty-four gage galvanized steel sheets are used throughout. These sheets have deeply drawn paneled corrugations which give them extra strength. The sheets come in 2-inch units.

Complete information and specifications can be had by writing the company.



Butler Ready-Made Steel Power House.

Keltner Heavy Duty Double Hoist

The Keltner Heavy Duty Double Hoist, put on the market a short time ago by the Keltner Manufacturing Company, 200 North Waco Avenue, Wichita, Kansas, has drawn much attention from Mid-Continent operators.

The hoist is a front end non-rigid frame type, using a Fordson power unit —with the wheel base extended 38 inches.

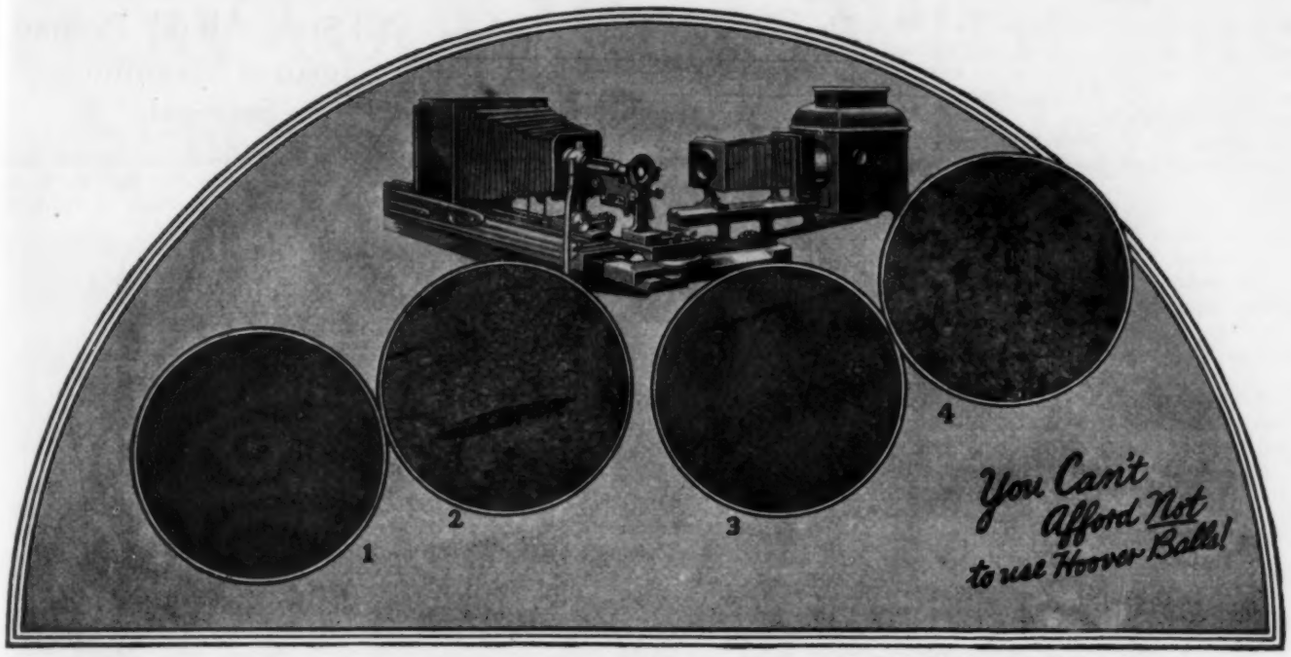
The hoisting mechanism is a combination of a low speed heavy duty and a high speed light duty winch, which permits an extremely heavy pull at low speed or handling light loads at moderately high speed without racing the motor.

All that is used of the Fordson tractor is the motor, transmission, differential and front wheel assembly. The front wheels are equipped with special extension rims, and special rear wheels are used to accommodate the heavy duty, slow speed power take-off. The regular Fordson transmission is used as a means of speed change for the power take-off. The main power shaft is mounted on standard Fordson roller bearings. The final drive to the hoist is by a heavy one and one-half inch chain, which provides the flexibility necessary in a non-rigid type hoist. The maximum speed of the drive chain is 180 revolutions per minute.

The hoist being of the non-rigid type, is not bolted rigidly to the tractor motor. The three point suspension as originally provided for the motor by the manufacturer is maintained. Heavy reinforcing tie rods extend from the extreme front end of the hoist frame back to a special drawbar cap which replaces the original draw bar cap of the tractor. These rods relieve the motor of all stress and twisting strains experienced in well pulling. The pull is placed at the draw bar cap.

The hoist has six forward speeds, with a maximum pull of 16,000 pounds on a single line, and a maximum speed of 1,300 feet per minute on a single line. Two reverse speeds, at 65 feet per minute and 500 feet per minute are also obtained by the use of the tractor transmission.

The winding drum is large, 10¼ inches in diameter by 27½ inches long. A free release is effected when the winch



Hoover Quality—
Something You Can See!

TO THE naked eye, two steel balls may look exactly alike. But the microscope tells another story.

By means of microphotographs, as shown above, Hoover Quality becomes something you can see. Number 1 shows a highly magnified ball of the rigid Hoover Quality Standard. Numbers 2, 3 and 4 show the magnified surfaces of balls of other makes.

What does all this mean? Simply this: that the manufacturer of a quality product must not—*and cannot*—cut costs by the use of inferior balls.

The balls you buy should look like No. 1. Balls 2, 3 and 4 are certain to cause you, *and your customer*, trouble and expense.

In no other ball plant in the world is quality so jealously guarded as with Hoover. So, naturally, it follows that the leaders in every line of industry use Hoover Balls. No other kind will do.

Hoover Steel Ball Company, Ann Arbor, Mich.

Chicago, 1901 Mallers Building *Detroit, General Motors Building*
Philadelphia, Liberty Trust Building

HOOVER
CHROME MOLYBDENUM *and*
Steel · Brass · Bronze
Monel Metal · Stainless Steel **METAL BALLS**

clutches are in the neutral position. The position of the drum is such that the operator can see the condition of spooling at all times. The drum is provided with two brakes, 22 inches in diameter by 3½ inches wide. Both brakes are operated by a single lever from the driver's seat.

The main drive chain and all gears are heavily guarded to protect the operator from injury.

All machines come equipped with Eisemann magneto, Steering reduction, front wheel extensions, foot accellerator, wire line divider, cat head, and pulley.

The hoist in general is of very rugged construction, designed throughout for heavy work, and will handle wells from 600 to 4,500 feet deep economically.

In addition to the machine described, the company also builds the Keltner light duty single hoist, which, like the heavy duty machine, is a front end, non-rigid frame type, with extended wheel base. This machine has two forward speeds and two reverse speeds. The maximum pull single line is 7000 pounds.

Full particulars will be mailed upon request to the Keltner Manufacturing Company, 200 North Waco Avenue, Wichita, Kansas.

Saunders Swab Combines Many New Features

Saunders Brothers of Whittier, California, have recently perfected and placed on the market the Saunders sleeve valve swab. This new swab combines many new and important features—such as being simple and practical in design and operation.

In the Saunders sleeve valve swab, the pear shaped rubber forms the sleeve valve of the swab. The life of the pear shaped rubber is greatly lengthened by chemical treatment so that it resists oil. The torpedo head insures minimum of resistance to fluid, as the swab descends into the hole, it is said. The pear shaped rubber pulls the load.

The body is of one-piece construction.

It is claimed that sanding up is prevented because the sleeve valve jars itself loose, and that surging and overloading is done away with by a spring tension on the sleeve valve rubber which automatically opens when the pressure is relieved on the cable.

Further information can be secured by writing Saunders Brothers, Whittier, California.

New Pump Recommended For Use in Bad Wells

What is claimed to be a new departure in the plunger pump construction is embodied in the M. & K. Plunger Pump, being manufactured by the M. & K. Pump and Specialty Company, Burkburnett, Texas. The new pump has been tried out in a number of fields and has proven successful.

Features of construction whereby superiority is gained consist of a packing chamber containing packing above and below, a short pump barrel with the plunger reciprocating through this packing barrel. The packing assists in the fluid lifting operation and helps prevent sand from getting on the pump barrel and sticking the plunger so it cannot be removed.

The short pump barrel assists in the fluid lifting, and acts as a support for the packing above; in other words, it is said that the fluid pressure cannot rush through and cut the packing out with this close fitting pump barrel below as a support.

Between the pump barrel and chamber walls is a sand pocket to take care of any sand that might possibly get by the top packing.

Connecting to the packing chamber below is heavy pipe that finishes out the length of barrel. This type has a clearance over the plunger and connected to the bottom of this pipe is the standing valve.

The plunger is nearly the same length as the pump, and is tapered and perforated at the bottom end for the purpose of preventing packing collapse when removing and replacing plunger in pump barrel.

The plunger contains two ball valves, one above the bottom perforation and one at the top of the plunger.

The packing is five-eighths inches in diameter, a solid ring cut to fit the plunger and stuffing box.

This pump is especially recommended for sandy water, or b.s. wells, and will handle as much fluid as any pumping apparatus the same size.

Further information can be had from the M. & K. Pump and Specialty Company, Burkburnett, Texas.

Save it. This issue should not be laid aside after one reading. It will be handy all next year when you need some equipment for that particular job that is always coming up.

All-Steel Metal Pitman Insures Maximum Strength

Among the latest devices for oil field use to be placed on the market, is an all-metal Pitman, being sold by Davis & Kuhns, P. O. Box 427, R. F. D. No. 1, Placentia, California.

The body of this Pitman is made of an eight-inch I-Beam, from which the web has been cut at one end, leaving the sides of the I-beam to receive and frame a six-inch by eight-inch by four-foot piece of oak for the stirrup to fasten to. The oak acts as a cushion and is retained in position by a one-half by four-inch strap iron which runs over the top of the Pitman and is bolted through the wood and the side members of the I-beam, thus giving maximum rigidity and strength.

Four parts make up the head of the Pitman: the lower part is a semi-steel casting into which the lower half of the bearing itself is fitted; the bearing casting is recessed on the sides to take a wide key on the face of the lower casting. The upper part of the bearing is also recessed and slides down into position against the lower half. The upper face of the top-bearing casting is built on a sharp angle opposed to which is the wedge, dovetailed on upper and lower faces to hold it in position against the top-bearing casting and the cast steel plate on the lower end of the I-beam. The wedge itself is easily moved in or out to take up or give more bearing freedom. The screw, held wherever set by a pawl, cannot move accidentally. This wedge, in forcing the bearing casting down will eliminate all play on the wrist pin. A band of three-fourths-inch by four-inch strap iron is carried around the lower part of the pitman and bolted to the I-beam as on the top part of the pitman.

The lower bearing is bronze instead of babbitt, and is easily replaced; high grade castings are used and the best of workmanship is employed in the construction of these pitmans.

Further information can be obtained upon application to the company.

It is interesting to see how much new equipment has been developed during the year, but this copy has a value higher than interest—it is valuable. Preserve your copy for future reference.

FLOW YOUR WELLS WITH THIS SPECIALLY DESIGNED UNIT

OUR Chief Designer was permitted to sit in at a meeting of one of the largest western oil companies, while their production men were discussing the need for an ideal unit for the flowing of wells by the use of either gas or compressed air.

The Chicago Pneumatic type V-CG Vertical Multiple Cylinder Gas Engine Driven, High Pressure Compressor, Single or Tandem, is the result of this demand from practical production men to meet a specific need, utilizing the design of the well known BENZ Engine.

There is nothing new or untried in either the design or manufacture of this unit and purchasers can rest assured *that they are not carrying on the testing of an untried design at their own risk and expense.*

Full Specifications furnished upon request, by any Chicago Pneumatic branch or dealer.

WHEALTON-TOWNSEND COMPANY

Authorized Distributors Chicago Pneumatic Tool Company Products

120 East Brady Street, Tulsa, Okla.

Chicago Pneumatic Tool Company

6 East 44th Street New York City

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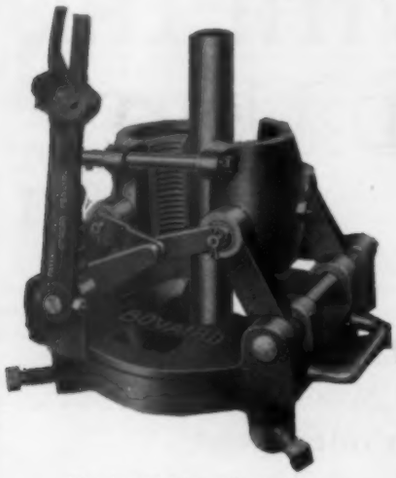


Bovaird Tubing Slip Spider.

Bovaird Supply Offers New Tubing Slip Spider

The Bovaird grip tubing spider is one of the new products of The Bovaird Supply Company of Tulsa.

The tubing spiders are made in two sizes. One spider will handle 2, 2½ and 3-inch tubing, either regular or upset, while the other size will handle 3, 3½ and 4-inch, either regular or upset.

Many leases are using several sizes of tubing and by using the Bovaird grip tubing spider one can change to the desired size by a simple and rapid operation. All that is necessary is the removal of two bolts and insertion of the size slips wanted.

The base is so designed that without any change or without the use of any additional parts the spider can be adjusted to any casing or control head or armor top size 8¼-inch or smaller.

A secure fastening to its support is made by the use of four special alloy case hardened set screws extending through four lugs which are an integral part of the base. The base is provided with an opening which permits the spider to be quickly removed or replaced around the tubing. This is a desirable feature when packers, tubing catchers, etc., are being used. Spanning the opening gap is a brace which is quickly removed and replaced when necessary.

The bosses which receive the shafts are an integral part of the base. An even distribution of the load is obtained by transferring the stresses, originating in the jaws, through four jaw toggles to the shafts. The shafts are special alloy steel having unusual strength and wearing qualities. The jaw toggles are properly designed to take care of all bending stresses.

The jaws are mounted on the other end of the jaw toggles by means of trunions. A recess is provided in the jaws to receive the slips securely holding them in place. A bolt is also placed through the slips and jaws to further hold them. The bolt hole being drilled off center eliminates the possibility of their being placed in any other than their proper position. When not engaged the jaws are held in near vertical position by means of a parallel rod passing through ears on the jaws.

The trunions of the jaws being below their transverse centers causes the jaws to travel from their open to their gripping position in a manner which engages the bottom teeth of the slips first, thereby creating a unique wedging effect.

The opening device consists of a handle, crank and opening toggles and the jaws are spread by simply moving the handle from its horizontal to a vertical position with very little effort. Before this can be accomplished it is necessary to raise the tubing to release the slips. Equal spread is obtained through the opening and jaw toggles, the latter being keyed to the shaft by tapered pins, causing the shaft to turn simultaneously with the entire opening mechanism. The taper pins provide for any wear that might take place, also holding the shaft in place as regards any side movement.

An important safety factor of the Bovaird grip tubing spider in the pulling of tubing is leaving the jaws closed as they automatically open when the collar passes through, immediately closing again gripping the tubing. Should for any reason an accident occur, this feature prevents the tubing from dropping. This is specially appreciated in shallow districts, where horse power and tractors are used.

All parts, except set screws, shafts and slips are made of electric steel castings thoroughly annealed, assuring a uniform strength throughout. By the use of gigs and dies in the manufacture absolute accuracy is obtained, thereby insuring correct interchangeability of all parts. This is very important when repairs are necessary. In action the Bovaird grip tubing spider is positive as it closes by force of gravity and it does not depend on springs either to open or close. The shipping weight is approximately 212 pounds.

More information will be supplied by The Bovaird Supply Company, Tulsa.

Farley Machine Works' Long Stroke Pump

Equipped with a gear that is cast steel and with cut herringbone teeth, the long stroke pump being manufactured and sold by the Farley Machine Works of Arkansas City, Kansas, has been designed not only to operate efficiently but to perform indefinitely when properly installed.

All parts of the Farley have been designed with the idea of strength predominating. The cast steel gear is eight feet in diameter and 10-inch face. The cut herringbone teeth afford a continuous, smooth motion and insures an equal distribution of power which reduces wear and prevents friction. The main shaft is seven and three-quarters inches in diameter of forged steel and the bearings are all extra heavy pattern and rest on a machine sub-base. All bearings are adjustable to insure perfect alignment.

The tug wheel is mounted on the countershaft of the pump. This wheel is in line with the bull wheel on the opposite side of the well. By disconnecting the pump pitman and using the ordinary bull rope drive from tug wheel to bull wheel, tubing and rods can be handled in the customery manner.

All parts of the Farley pump are interchangeable. This pump will handle wells using from two to five-inch tubing and is practical for deep wells and wells that make considerable water and for those with little gas.

Farley Machine Works' Long Stroke Pump.

Why Waste Time?

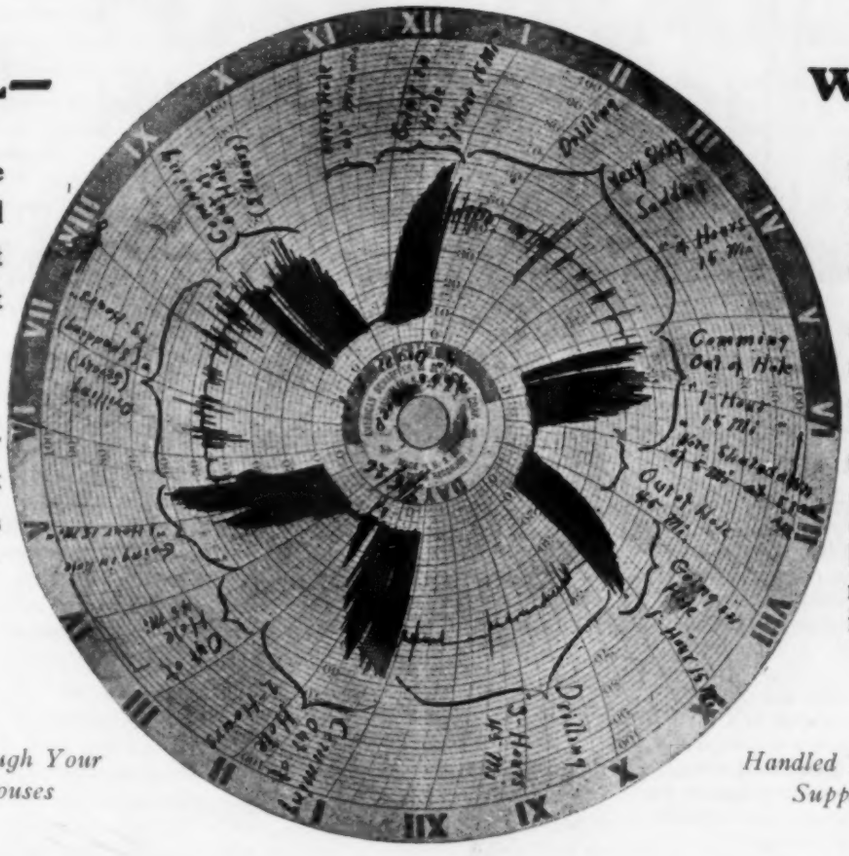
When the

Martin-Loomis Automatic Recording Weight Indicator

WILL—

1. Indicate and record actual weight in pounds at all times.

3. Identify and check formations as you drill.



WILL—

2. Compile a complete office record of drilling.

4. Appreciably lower drilling time on a well due to elimination of needless changing of bits and unnecessary coring.

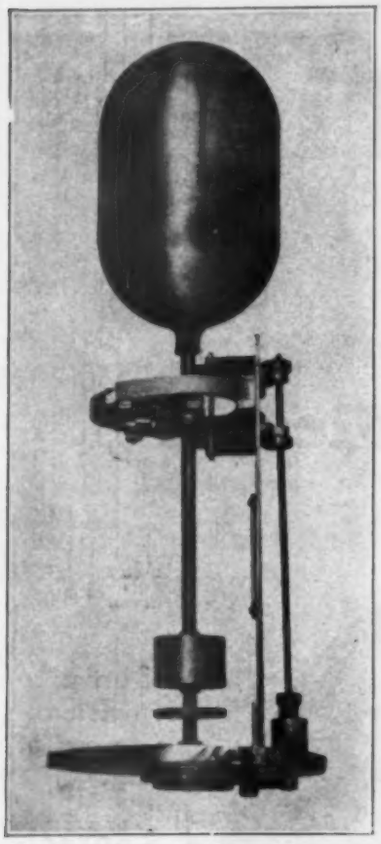
Handled Through Your Supply Houses

Handled Through Your Supply Houses

The Automatic Recording Weight Indicator can be installed and put in operation by anyone, with the tools in your car. Can be engaged or disengaged from dead line in one minute.

Loomis Oil Well Control Co.

568 East Willow St. Long Beach, California



Ac-Me Gas Cleaner

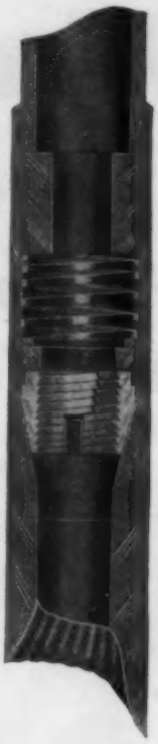
Ac-Me Gas Cleaner Removes Sand and Iron Oxide

The Ac-Me Gas Cleaner has been developed to meet the requirements of gas companies experiencing trouble due to sand and iron oxide dust in their gas. The lower half of the machine brings all the gas in contact with oil, the oil weighting down the fine particles of dust. In the upper half of the machine the oil and dirt are completely separated from the gas, delivering a clean dry gas. Where dirty gas is to be compressed, this cleaner will greatly increase compression efficiency due to eliminating the dirt which keeps the valves from seating. It is said to greatly increase the life of valves, valve seats, and cylinder liners.

It is made in ten sizes, covering all conditions of volume and pressure. For full information regarding this cleaner, write The Ac-Me Company, 3225 Swiss Avenue, Dallas, Texas.

American Iron and Machine Works' New Items

American Iron and Machine Works, Inc., 518-530 North Indiana Avenue, Oklahoma City, announces several oil field tools of interest to producers. Chief among these is the American Overshot.



American Overshot

This overshot will catch drill pipe, coupling or tool joint and can be released from any point. The rubber packer makes a tight joint between the fish and overshot assuring complete circulation, it is claimed.

Slips in the overshot are made with offsets or locking devices so that they work up and down together. Slips are keyed in the bowl and have left hand threads on the inside thereby causing them to back off and release the fish when the overshot is rotated to the right.

The wall hook is interchangeable with standard guide. The standard or eight foot hook is a forging with no welds. The milling shoe is interchangeable with the standard guide, and is made with teeth on the inside and bottom for use in milling off and shaping up the fish so that it will enter the bowl of the overshot.

The screw bottom guide is interchangeable with the standard guide.

Flexible Coupling

American flexible coupling for which a patent has been applied is used with a rock bit lubricator to prevent the lubricator from breaking off or unscrewing while drilling. It is made of steel throughout with the exception of two rubber strings that act as a cushion to carry the weight of the lubricator and absorb the vibration.

This tool is finding favor among drilling operators especially those who find it necessary to use lubricators from 20 to 25 feet long.

American Iron Works Rock Bit Wrench.

Rock Bit Wrench

The American rock bit wrench is made of steel. It is hung in the rig the same as break-out tongs and takes the place of break-out tongs. Claims made for this tool are that it holds the two halves of the rock bit in line preventing the threads on the shank from galling, and that it will catch the rock bit without injuring the side reamers.

Other information with literature on these products may be had from the American Iron and Machine Works, Inc., Oklahoma City, Oklahoma.

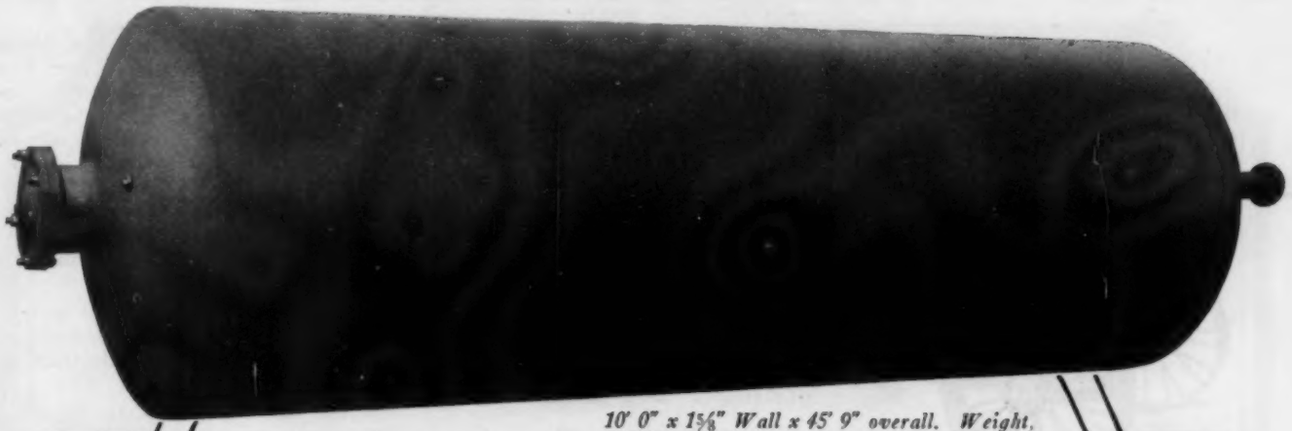
Bradford Motor Works Markets Liner

The "Admore" liner, recently put on the market by the Bradford Motor Works, is recommended for its long life of service. This liner with its stationary plunger and reciprocating outside tube is said to provide a satisfactory method of pumping most wells.

The liner is fitted with Darcova or Lubrikups. It has piston rings above and below the cups. An eight-cup or four-cup valve can be used, the four-cup type being the regular equipment. The liner seats in old working barrels or a special seat.

Additional information may be had from The Bradford Motor Works, Bradford, Pennsylvania, or the branch office, Tulsa.

It is interesting to see how much new equipment has been developed during the year, but this copy has a value higher than interest—it is valuable. Preserve your copy for future reference.



10' 0" x 1⅝" Wall x 45' 9" overall. Weight, 105,000 pounds. Tested to 400 pounds hydrostatic pressure.

"NATIONAL" HAMMER-WELDED *Expansion Chambers*

"NATIONAL" Hammer-welded Expansion Chambers, like other Hammer-welded vessels for oil refining purposes, can be made to practically any design or specification, in diameters up to 10 feet and in wall-thicknesses up to 1⅝ inches.

Manways and nozzles are hammer-welded to the vessel at the mill; lugs and tapped holes can be furnished as desired—so that the vessel may be installed with little or no shop work at the point of erection.

"NATIONAL" Expansion Chambers are manufactured from high grade Open Hearth steel (made to special specifications), of high tensile strength and ductility, and the whole vessel is annealed at one time in the furnace to eliminate any stresses after manufacture.

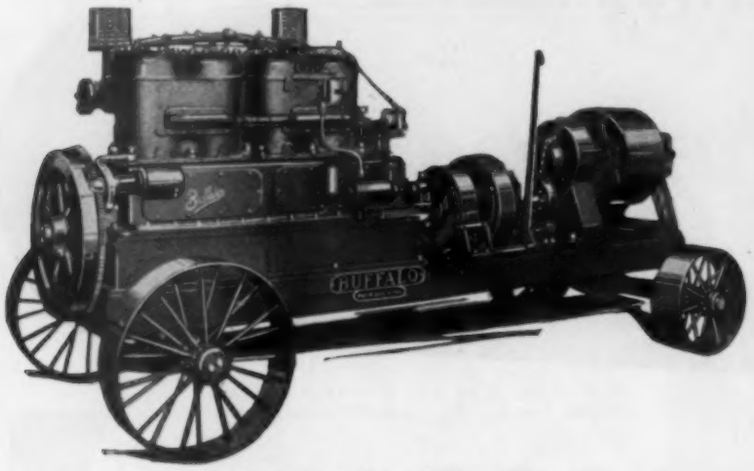
With hammer-welded construction, there are no seams or rivet holes to leak, due to expansion and contraction strains from alternate heating and cooling down of the chambers, while the smooth interior surface offers the additional advantage of making it easy to clean out carbon deposits, etc.

National Tube Company has ample facilities for executing a wide range of special designs in Oil Refinery Vessels, and our engineers will be glad to cooperate with you and offer suggestions concerning this work at any time.

NATIONAL TUBE COMPANY

Frick Building, Pittsburgh, Pa.

DISTRICT SALES OFFICES IN THE LARGER CITIES



Buffalo Gasoline Motor Drilling Outfit.

Buffalo Gasoline Motor Drilling Outfit

The latest addition to the line of power units manufactured by the Buffalo Gasoline Motor Company, Buffalo, New York, is a drilling outfit comprising a four cylinder 8¼x9 "Buffalo" engine, developing 140 H. P. at 800 RPM. The outfit weighs in excess of 11,500 pounds.

This unit was especially designed for deep drilling.

A similar unit, but smaller, takes care of wells up to and including 3000 feet.

Buda Power Plants and Generator Sets

Two items of interest to operators have been added to the list of Buda products by The Buda Company, P. O. Box 1159, Tulsa, or Harvey, Illinois. These include the improved power units and also the Buda lighting plant.

Power Plants

Three of their larger sizes of power units have been equipped with heavy I beam bases of very rigid construction. These steel bases are designed to have a minimum of vibration and are braced very rigidly with the cross members bolted or riveted in place. Bases have turned up lower skids to facilitate moving about in the field.

Buda power plants are equipped with sliding side panels which may be removed. When they are in position on the unit they may be locked in place. This equipment is furnished either with a telegraph wheel control or with hand throttle. Three units are equipped with extra large radiators.

One important feature is the power take-off which is an extra heavy duty model of twin disc clutch. This is used as occasionally these units are operating under continuous loads at low speed, which requires a clutch of large capacity.

Buda units are also available with speed reducers, having either two to one or four to one reduction. When the speed reducer is used the heavy I beam base is extended to the rear with a portion cut away for accessibility and the rear end of the speed reducer is rigidly fastened to the ends of these skids. This makes a substantial construction which will withstand heavy side strains of a drive chain on the power take-off shaft. The power take-off shaft is placed in a low position so that the side strain comes on the lower side of the base.

The various models of Buda heavy-duty oil field units are used successfully in drilling and pumping and the type with the speed reducer is well adapted for driving pumps or other equipment where it is to have a slow chain speed which will give long chain life. This equipment is arranged to burn gasoline, natural gas or residue gas without any change in the equipment.

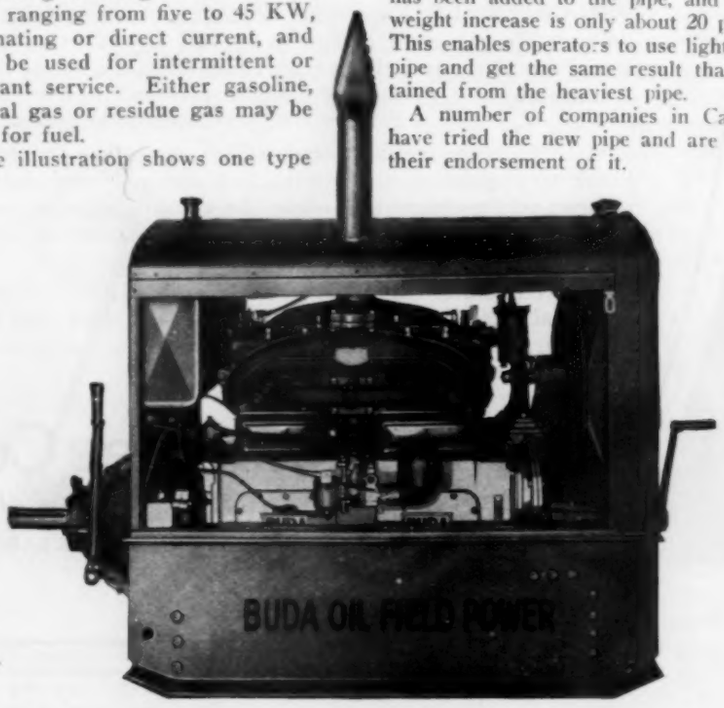
Generator

Buda generating sets are built in sizes ranging from five to 45 KW, alternating or direct current, and may be used for intermittent or constant service. Either gasoline, natural gas or residue gas may be used for fuel.

The illustration shows one type of unit that is being used a great deal in the oil fields for lighting camps, construction work, warehouses and in similar service. This equipment is built on two types of bases: cast iron and fabricated steel. The latter is used where portability is desired. These lighting plants require very little floor space as the engine is direct connected to the generator and both units are mounted on the same base.

These units are economical and reliable and as they are portable and easy to set up are more desirable than the old style belted type.

These lighting plants are equipped with heavy duty Buda engines similar to those which are used with pumps, drills, compressors and other oil field equipment.



New Screen Casing Gives Service of Heavy Pipe

To meet the demand for a stronger reinforced pipe for use in deep drilling, the E. M. Smith Company, Los Angeles, California, has developed a new screen casing. This pipe, the manufacturer states, affords double strength in the oil string with very little additional weight.

The method of reinforcing Emsco pipe does not change the inside or outside diameter of the pipe, thus making it possible for operators to use standard sizes.

Reinforcing bands and collars are electric welded to the pipe, resulting in the same strength that you get from a cross section I-beam. Reinforcings are put on the outside of the pipe and have the same size as the collars.

Recent tests are said to show that standard weight pipe has been increased in strength up to 300 per cent by this method of reinforcing. Additional advantage lies in the fact that this strength has been added to the pipe, and yet the weight increase is only about 20 per cent. This enables operators to use light weight pipe and get the same result that is obtained from the heaviest pipe.

A number of companies in California have tried the new pipe and are high in their endorsement of it.

DISTRIBUTORS OF:

"REPUBLIC"
CASING, LINE PIPE, DRILL PIPE AND TUBING
Standard Seamless Oil Country Pipe
Broderick & Bascom Wire Lines
Hughes Tool Co. Products
Crotty & Company Cable Tools
Gumbo Buster Rotary Machinery
Jones Sucker and Pull Rods
Howe Rotary Chain
Powell Valves
Walworth Fittings
Wall Manila Cordage
Republic Rubber Belting
R&J Dick Balata Belting and Valves
Kibele Pressure Pistons
Spang Weldless Drilling Jars
Hough Pumping Equipment
Bradford Pumping Equipment
Penberthy Injectors
"Masper-Kem" Cement Accelerator

Old Rep Says:

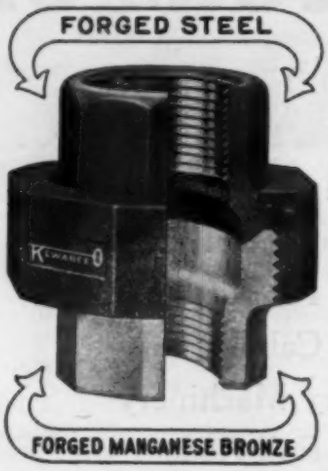
Yeah, I'm going to Tulsy for the A. P. I. We gotta see about standardizin' golf and choc beer.

Complete Stocks at Twenty-Seven Stores in
OKLAHOMA TEXAS LOUISIANA ARKANSAS

Republic Supply Company

OIL AND GAS WELL SUPPLIES
ROTARY AND CABLE TOOLS

Every Kewanee Union



The Kewanee Union is only one item of the complete line of quality pipe fittings, valves, and tools manufactured by Walworth Company.

We carry the complete

Walworth Line

Is Tested Under Water*

Not one out of a hundred, not one out of ten, but EVERY KEWANEE UNION IS SEPARATELY TESTED BY COMPRESSED AIR UNDER WATER. This test takes time, but it's worth it to be able to guarantee you a sound leakless union in every Kewanee you may buy. Kewanee can't corrode because there is nothing that can rust in the iron-to-bronze thread connection.

The ball-joint is forged bronze to forged steel, impressing a harder upon a softer metal to insure a tight seat. This eliminates the necessity for a gasket or inserted parts, so that there are just three pieces to make up a joint that won't leak and can't stick.

Kewanees are made to fit all sizes of pipe from 1/8 to four inches.

The Kewanee Union

1. No Corrosion.
2. No Gasket.
3. No Defectives.*
4. No Inserted Parts
5. No Force Needed

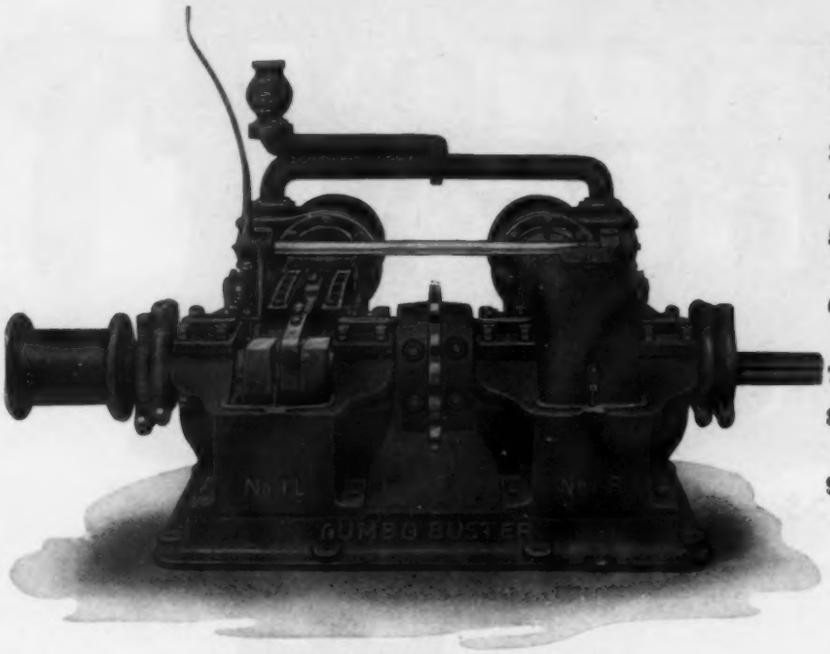
has Five Advantages

Sold by

Republic Supply Company

OIL AND GAS WELL SUPPLIES
ROTARY AND CABLE TOOLS

Gumbo Buster



1. 12"x12"
2. Enclosed and oil bath.
3. Four main bearings.
4. Outside rigging.
5. Cathead for setting up and tearing down
6. Can run on one cylinder.
7. No dead centers.
8. Forged steel crank shaft.
9. 200 H. P. with 200 pounds steam.

TWIN CYLINDER DRILLING ENGINE

1. 12" x 6¾" x 16".
2. Water ends tested 1000 pounds.
3. Works with 200 pounds steam.
4. Taper valves.
5. Mud makes but two right turns instead of four.
6. Ample volume and pressure at any depth.

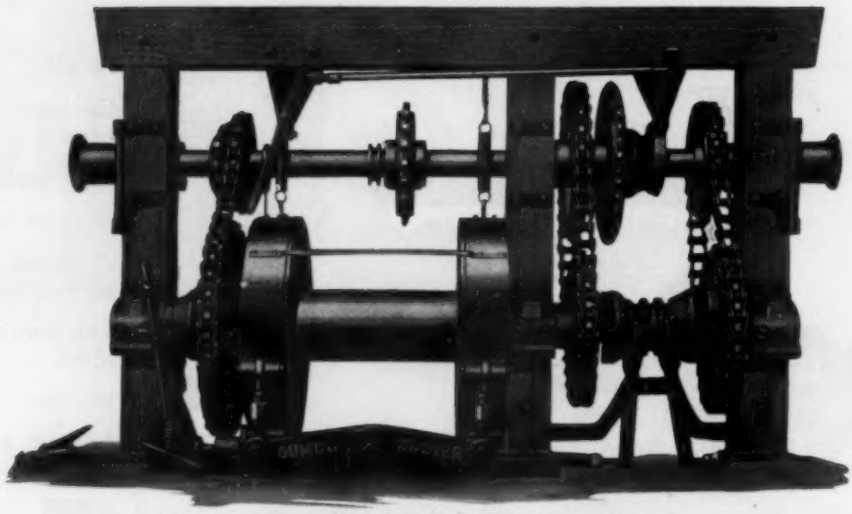
NEW TYPE F SLUSH PUMP

Sold Exclusively by

Republic Supply Company

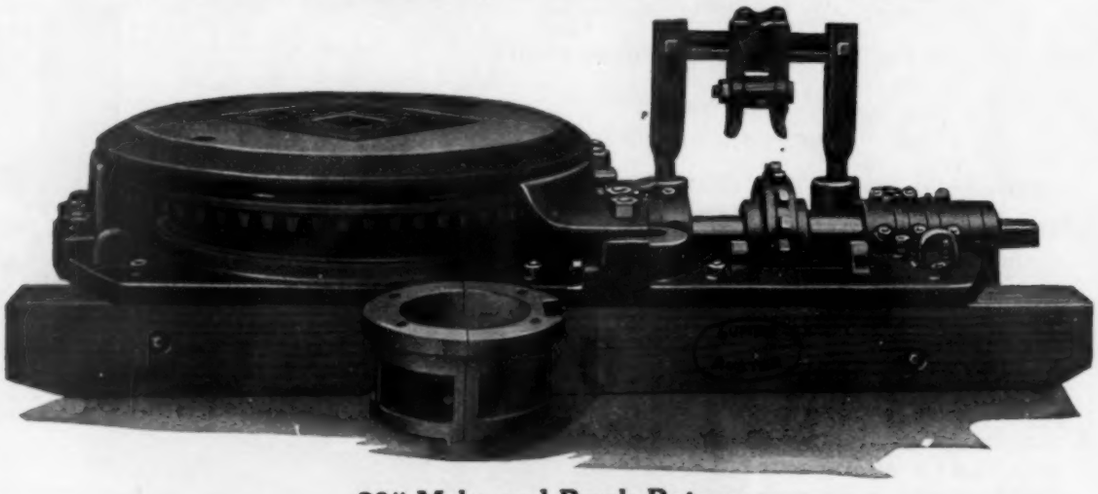
OIL AND GAS WELL SUPPLIES
ROTARY AND CABLE TOOLS

GUMBO BUSTER



3-Speed Russian Model "D" Drawworks

1. Front equalized floor brakes.
2. One brake takes entire load in event other brake is out of commission.
3. Electric steel drum heads and clutch blocks.
4. Brake bands easily adjusted.



20″ Make and Break Rotary

Simplicity of design and construction of this "Make and Break" rotary can be more readily appreciated by comparison with other "Make and Break" rotaries.

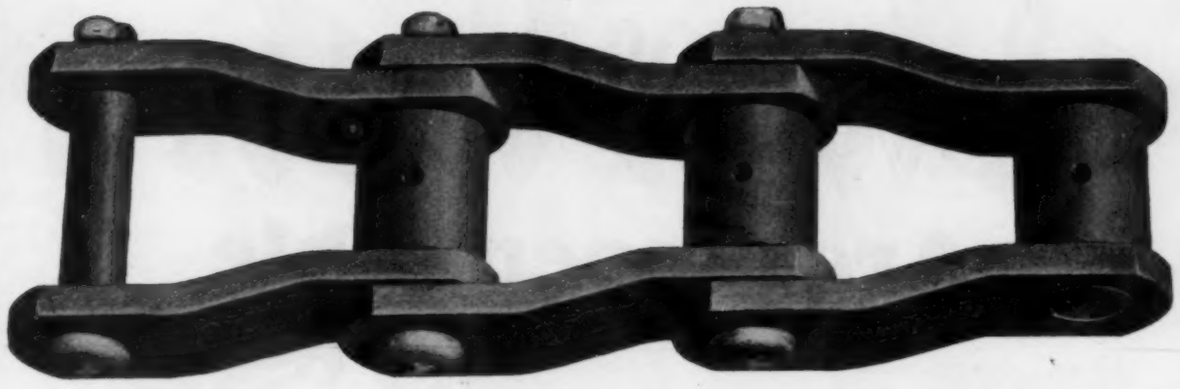
Sold Exclusively by

Republic Supply Company

OIL AND GAS WELL SUPPLIES
ROTARY AND CABLE TOOLS

Say you saw it in The OIL WEEKLY

Howe Chain



60% Increase in Strength

Don't waste your driller's time.
Give him the BEST in Rotary Chain.

Not until HOWE XS-40 and XS-1240 CHAINS entered the field two years ago had there been any improvements in Rotary Drilling Chains for 15 years.

HOWE XS-40 and XS-1240 Chains are made of heat treated alloy steel, and all parts are **interchangeable** with HOWE S-40 and S-124 Chains.

Comparison

XS-40—Average ultimate strength 43,000 pounds
S-40—Average ultimate strength 27,000 pounds
XS-1240—Average ultimate strength 96,000 pounds
S-124—Average ultimate strength 53,700 pounds

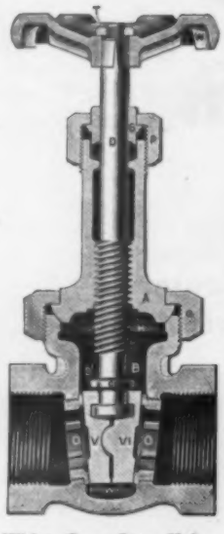
HOWE CHAIN CO., Chain Specialists, Muskegon, Mich.
Link Belt Co., Owner

In Texas, Oklahoma, Louisiana, Arkansas
Sold Only by

Republic Supply Company

OIL AND GAS WELL SUPPLIES
ROTARY AND CABLE TOOLS

Powell Valves
Are Dependable

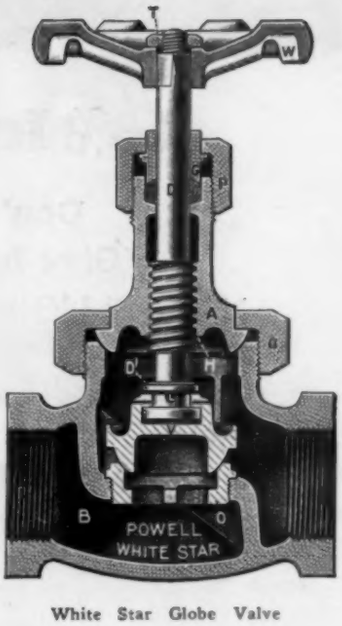


White Star Gate Valve

White Star Valves, adapted to most any service demand, are especially designed for unusual conditions.

All White Star Valves are furnished with Powellium nickel discs—a hard, tough, nickel-bronze alloy that positively withstands erosion.

Both globe and gate valves are obtainable with renewable seats. Seats and discs, the two essential wearing parts of these valves, are constructed for long life and ease in regrinding. The renewable features offer added economy in length of service.



White Star Globe Valve

The body, bonnet, ring nut, stem, and packing nut of Powell Valves are cast from a high-grade bronze, insuring physical characteristics especially suited for rugged service and strength far in excess of rated working pressures.

Specify POWELL WHITE STAR VALVES on your next order and be convinced

Sold by

Republic Supply Company

OIL AND GAS WELL SUPPLIES
ROTARY AND CABLE TOOLS

Say you saw it in The OIL WEEKLY

Simplex Emergency Jack.

Simplex Emergency Jack Now Made of Steel

The No. 310 Simplex Emergency Jack of 15 tons capacity, made by Templeton, Kenly & Co., Ltd. of Chicago, is now built with a steel base, instead of malleable base which insures greater strength and durability in this important part of the jack. For many years, the No. 310 has been recognized as a popular and versatile jack for oil country service. Its ability to extricate stalled motor trucks and its easy durable operation in lifting boilers and engines, unloading machinery, skidding rigs, raising tanks and numerous other applications have contributed towards the universal use and adoption of this jack.

The working parts of the No. 310 are built of heat treated, drop forged steel. The jack is furnished complete with a five foot steel bar, five foot steel chain and a steel auxiliary claw for extra lifts. The No. 310 is carried in stock by supply houses in every oil field

Extension Shoe

An extension shoe which is being made a part of the Simplex Jack, is said to provide additional lifting ranges and also adds to the general usefulness of the jack.

The shoe is detachable and adjustable. Adjusted to the No. 29 Simplex Jack, it gives the following lifting ranges: toe, 9 inches to 34 inches; top, 29 inches to 54 inches, weight of shoe is 15 pounds.

The extension shoe can be used with other Simplex Jacks by specifying that the jacks be fitted with the cap that holds the shoe.

Simplex Jack showing extension shoe.

Chambers Helmet Goggles Have Been Improved

Improvements that make Chambers 20th Century Helmet Goggles more efficient have been announced by the Carter-Lockard Company, 625 South San Pedro Street, Los Angeles, California.

Shape of the goggles has been changed so as to allow them to fit more closely to the face but without pressure on the face.

Instead of the solid Bakelite bridge over the nose the goggles have been made in halves and are joined together

20th Century Helmet Goggles

by a specially designed hinge. This allows the goggles to be adjusted by bending. The hinge is so constructed that there is a tension to hold them in adjustment at all times.

The screws in the hinge are seated through slots in the goggles frames and when loosened will allow them to pull apart one-fourth inches. This takes care of fitting perfectly any unusually broad face which cannot be fitted otherwise.

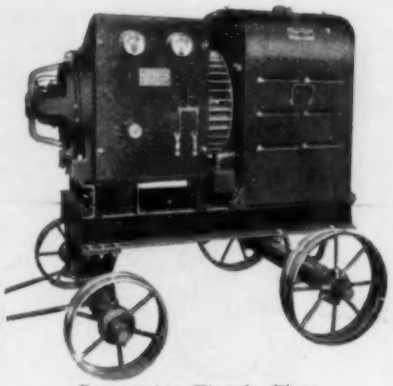
More information will be provided by the company, on request.

Three New "Powermaker" Oil Industry Units

Three combination units have been brought out within the past year by The Cook Motor Company, Delaware, Ohio. These include the Powermaker Electric Plant, the Powermaker Force Pumping Unit and the Powermaker Centrifugal Pumping Unit.

Electric Plant

For lighting drilling operations, night work on derrick erection, tank erection, pipe line work, the Powermaker Electric Plant furnishes enough current for six or seven 1000 watt flood lights. It makes a handy unit for emergency work and can be loaded in a light truck and taken to the job quickly. In pump stations, refineries, gasoline plants, it can be used as the main lighting plant or as a stand-by for emergency.



Powermaker Electric Plant.

This compact electric plant is powered by a two-cylinder, fully enclosed engine. It operates on either gas or gasoline. The engine is direct connected through a flexible coupling to a five or 7½-KW ball bearing generator. The whole unit which includes the engine, generator and switchboard, is mounted on a rugged hot riveted channel iron base. The unit can be furnished mounted on wheels.

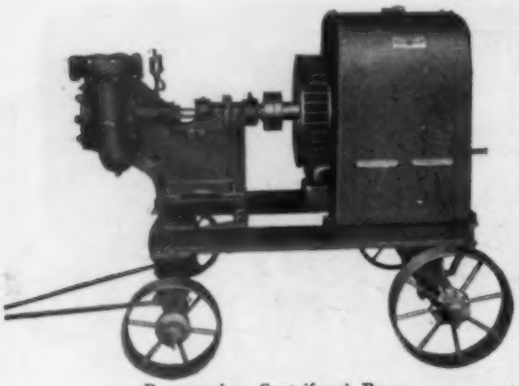
Force Pumping Unit

The force pumping unit consists of an engine, which can be operated on gas or gasoline, direct connected to a fully enclosed duplex double acting force pump. A rugged hot riveted steel frame forms the base of the unit, which can be furnished mounted on wheels.

The Powermaker Force Pumping Unit is suitable for pumping practically any liquid. The cylinders have removable brass liners so that the capacity and pressure limit of the unit can be easily and quickly adopted to various requirements within the range of the pump.

Another important advantage is found in the self-oiling feature. The power end of the pump is fully enclosed. The parts operate in a bath of clean oil. In fact, there are only

Powermaker Force Pumping Unit



Powermaker Centrifugal Pump

two places to lubricate the entire unit, one on the pump and one on the engine.

Centrifugal Pump

The Powermaker Centrifugal Pumping unit is built in 4, 5 and 6-inch sizes. The 4-inch size has a capacity of from 250 g. p. m. to 500 g. p. m., the 5-inch from 500 to 700 g. p. m. and the 6-inch from 700 to 1000 g. p. m.

One of the important features of this new pumping unit is found in their heavy rugged construction. The unit consists of an engine which can be operated on gas, gasoline or kerosene, direct connected to a side suction centrifugal pump. Both the engine and pump are mounted on a fabricated steel frame and can be furnished mounted on wheels.

More information about all these products can be obtained from either The Cook Motor Company, Delaware, Ohio, or The Gas Engineering and Construction Company, Tulsa, Okla.

Pyle National Perfects New Generator

The latest development of The Pyle-National Company of Chicago, represented by C. T. Tewksbury of Tulsa, is the type "M-2" turbo-generator for rig lighting service. This new machine has a capacity of 2500 watts and is the result of extensive development and experimental work carried on by The Pyle-National Company's engineering staff during the past two years.

The "M-2" turbo-generator has a number of features particularly adapted to oil field service. In general it is an extremely rugged, compact unit, fully enclosed and designed to stand the most severe service conditions. The larger capacity meets the present demand for more light and permits the use of 25 to 50 or more incandescent lamps in a string, depending upon size. The lamp table given below gives details of the loda which can be carried:

Candle-power of Lamps	Wattage of Lamps	Number of Lamps
18	25	100
30	40	62
38	50	50
46	60	41
70	75	33
100	100	25

The growing use of floodlight projectors in rig lighting makes the "M-2" especially useful, as it has ample capacity for carrying the load of the larger projector lamps.

The turbine end is similar to the larger Pyle-National machine of the "M" type which are made in sizes ranging up to 7½-kw. for railroad service. The governor, turbine wheel design, etc., are patterned after the proven designs of the type "M".

The generator end is a four-pole machine with a wave wound armature, giving the new machine unusual reliability.

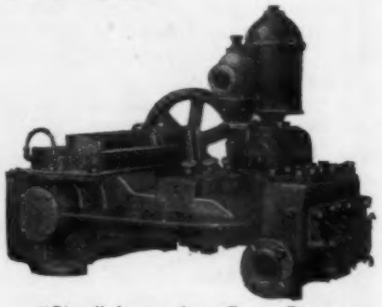
The entire generator is liberally designed throughout, with large commutator, etc. Four brushes are used, any one of which can be lifted without disturbing the operation.

One of the most valuable operating characteristics is the wide range of steam pressures under which it may be operated. This new machine will carry its full rated load of 2500 watts on any steam pressure from the full pressure of 200 pounds down to as low as 80 pounds, while maintaining its rated voltage within three volts of normal, with no change in adjustment of governor or valve. It is fully capable of carrying a good sized overload without damage to the machine.

Built upon the basic idea of simplicity and economy in operation and maintenance, type "M-2" has fewer parts and is designed to simplify all maintenance operations as well as reduce the number of parts. Accessibility for maintenance or adjustment has been carefully provided, so that when attention is required the maintenance and adjustment operations can be performed with the least possible labor.

A large number of the new units have been put into service during the past six months, and have definitely proved their reliability. Machines have operated continuously for periods as long as eight months, without any other attention besides the regular oiling.

More details may be obtained from the company at Chicago, or from the branch office at Tulsa.



"Giant" heavy duty Force Pump.

New "Giant" Heavy Duty Force Pump

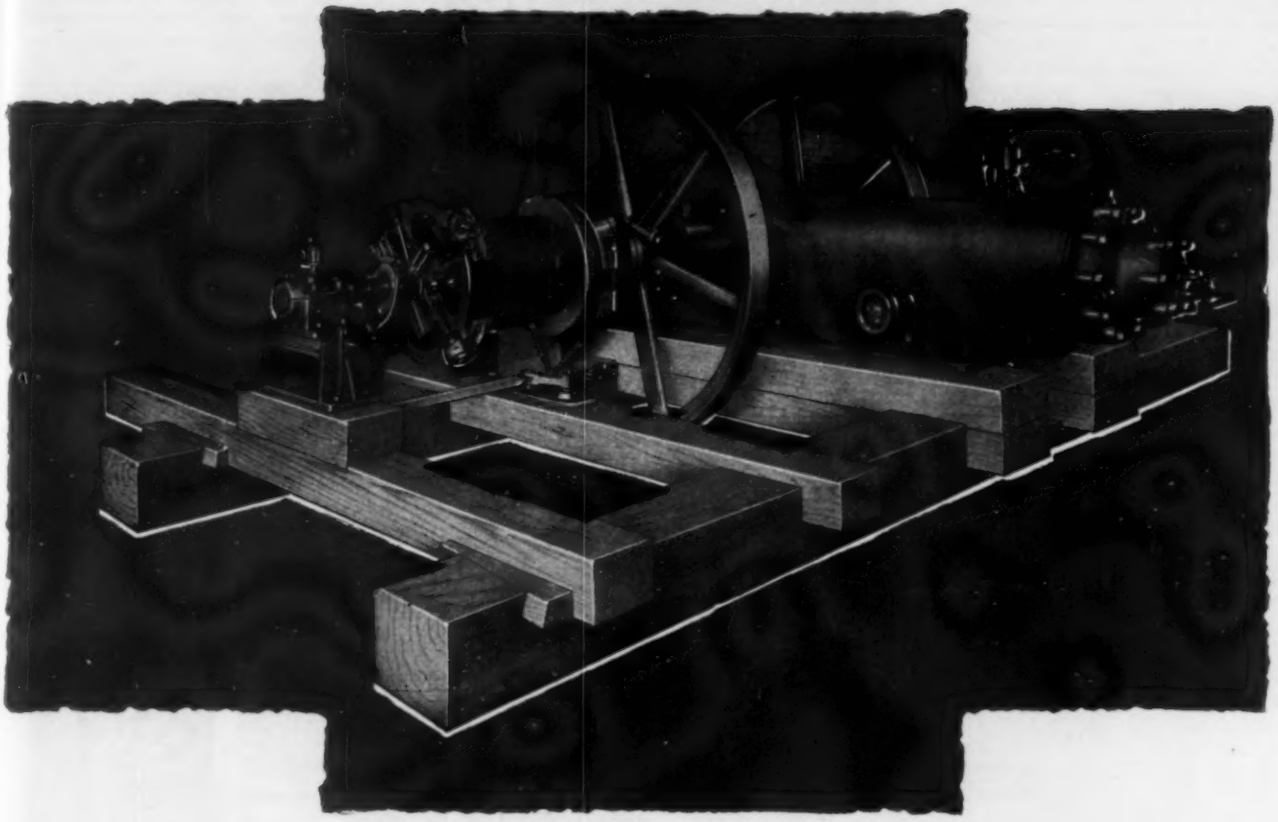
The "Giant" Heavy Duty Force Pump, recently perfected by the Domestic Engine and Pump Company, Shippensburg, Pennsylvania, will be of interest to operators.

This new pump is a large capacity, high pressure, three cylinder, self-oiling, single acting plunger pump. The packing is held stationary by outside adjusting packing glands. These glands are equipped with compression grease cups so packing can be kept properly lubricated.

Special features are automatic force feed oiling of all connecting rod and drive staft bearings; steel gears, machine cut and running in oil; Hyatt roller bearings on high speed drive shaft; closed crankcase to keep out dirt and retain oil.

The large diameter steel, three throw, crankshaft is finished by grinding all bearing surfaces. Oil is forced through

Pyle National Improved "M-2" rig lighting plant.



Don't Take Our Word For It—Here's the Proof

Over eight hundred Franklin Valveless Oil and Gas Drilling Engines now in service in both foreign and domestic fields

The Wonder Engine for Drilling

FRANKLIN VALVELESS ENGINE COMPANY

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FRANKLIN VALVELESS ENGINES

THEY BEAT STEAM AT EVERY TURN

Say you saw it in The OIL WEEKLY

drilled hole in shaft direct to connecting rod bearings.

Valves and valve seats are bronze. Valves have 45 degree angle seating face and are practically self-grinding. The valve caps are equipped with adjustable stops to regulate the lift of valves.

Air chamber, water relief valve, pressure gauge and flanged unions for both suction and discharge connections are furnished as regular equipment.

This pump is furnished powered by a 35-H.P. four-cylinder industrial type gasoline engine or arranged for electric motor drive. Maximum working pressure 600 pounds.

Complete descriptive bulletin will be gladly furnished, by the manufacturers, on request.

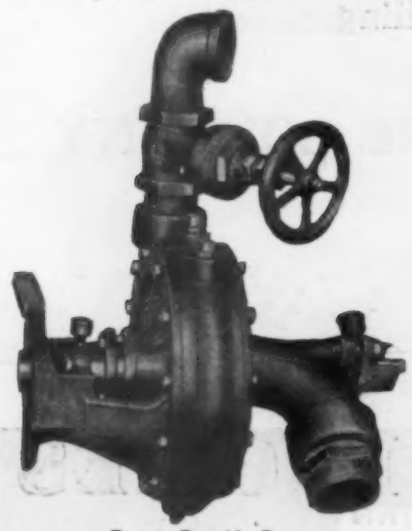
Barton Portable Pump For Quick Field Service

Adaptability of the Barton Portable Pump, made by the American Steam Pump Company, Battle Creek, Michigan, and being distributed by the Smith Separator Company, Tulsa, Oklahoma, to Ford cars and trucks, opens a big field of use for this pump in connection with the oil industry.

The pump is the centrifugal type of special design, minimum weight, yet strong enough to stand the strain of overload. The connection between the car and pump is simple, but of strong construction. As the weight of the pump is carried on the frame of the car, it may be left on while driving without strain or breakage to the car. The pump is driven by means of floating shaft from the motor and is made in various sizes to suit the customer's requirements.

Capacities range from 50 to 550 gallons. A small hand clutch is used to disengage power units when driving.

On any job where drainage must be accomplished by mechanical means, the pump can do the job quickly at very little expense.

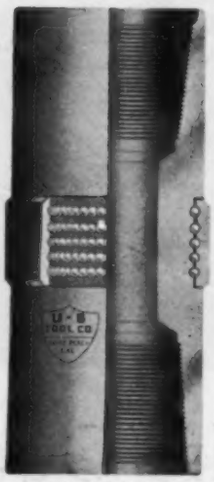


Barton Portable Pump.

U-S Disc with Marcel Wave.

The first installation of pump and attachment on the car, truck or tractor, requires about one and a half hours' labor, and thereafter the pump may be connected or disconnected in two minutes. As many power take-offs as are desired may be furnished.

Further information can be had from the main office of the Smith Separator Company, Tulsa, Oklahoma.



U-S Anti-friction Tool Joint

U. S. Tool Company Offers Three New Items

The U-S Disc with the Marcel Wave, and the U-S Anti-Friction Tool Joints and Drill Pipe Collars are oil field products being put on the market by the U-S Tool Company, Long Beach, Calif. All these items are finding a ready market on the Pacific Coast, and should be of interest to producers elsewhere.

It is claimed that the Marcel discs used in the U-S disc bit have 25 per cent more cutting edge than the old U-S plain disc. This increased cutting edge with an improved cutting action obtained by the shape of the edge which keeps the discs turning constantly, is the feature of the new disc. It is said that that Marcel disc is exceptionally good for cutting hard sand and shells.

The bit has a patent locking device for mounting the discs, on the outside of the legs, within easy reach.

Assembly of the U-S disc bit provides renewal parts where they are subject to wear.

U-S Disc bit showing Disc with marcel wave.

The band on the U-S Anti-Friction Joint prevents the body of the joint from coming into contact with the casing. This band is separated from the tool joint or collar by ball bearings, and rolls on the casing, thereby eliminating friction.

U-S Anti-friction Drill Collar.

Both the Anti-Friction joint and the drill pipe collar are made of alloy steel. They are machined to gauge, insuring uniformity and interchangeability of parts.

Further information on all these items may be had by writing the U-S Tool Company, Long Beach, California.

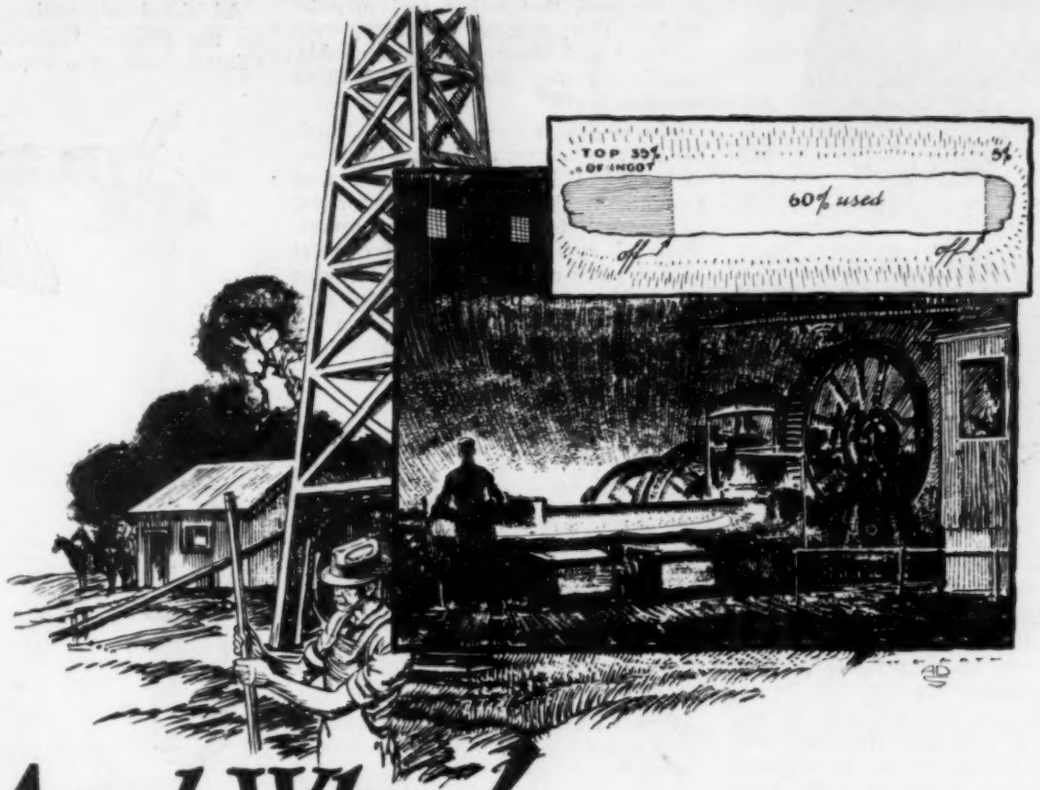
Valve Insert Improves Oilwell Mud Hog

A new valve insert for use in the Oilwell Supply Company Mud Hog pumps, is said to be giving remarkable service.

This insert is made both in rubber and balata and is so designed on the upper side that it fits the regular valves for this pump, while the lower side being solid gives it the effect of a solid valve, although fitting as perfectly as a regular insert. Being solid on the lower side not only causes it to last much longer, but prevents slush mud and sand from cutting around the support, thereby protecting both support and valve as well as the inner side of the insert.

A number of successful tests have

The Best Oil Well Tools

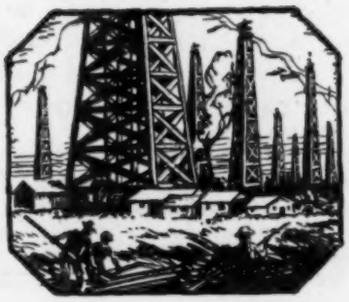


And Why!

It is a significant fact that the most successful operators in all fields insist upon tools made of ASCO STEEL, for after expensive experiments with other metals they fully realize the superiority of this supreme steel.

Nothing has been overlooked in making ASCO STEEL as durable as human ingenuity can make it. Each billet is made from the very best selected raw materials and the making of each grade is given special attention from the beginning of the charging to the final inspection.

The many users of ASCO STEEL are a testimony to the success of our efforts to produce a steel that stands out as the finest on the market.



"A Story of Steel and Oil" is a historical sketch of the petroleum industry. Write for your copy today.

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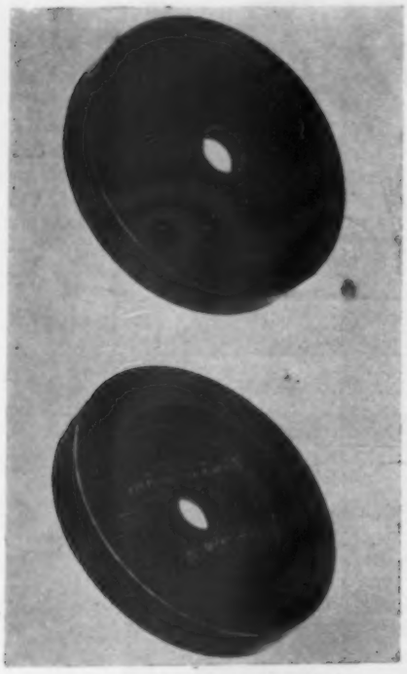


Valve Insert for Oil Well Mud Hog Pump.

been made with this insert, in one of which a set of them gave 63 days service. In every instance this insert has given unusual service.

These inserts are for sale by the Gulf Supply Company, Houston, and application for patent has been granted Messrs. L. J. Langdon of the above mentioned firm and L. H. Kennon of the Rycade Oil Corporation, who designed it. Arrangements are also being made with a number of other supply companies to carry them in stock.

Climax Power Units for Cable Tools

A cable tool drilling power unit which operates on gasoline or natural gas, is the latest introduction of the Climax Engineering Company, Clinton, Iowa, to its already well known line of oil field engines.

The Climax drilling engine consists of a six cylinder, six by seven inch engine, mounted on a structural steel frame, enclosed from the weather by a hood and panels. It is equipped with a combination gas and gasoline mixer so designed that either fuel may be used. The engine is completely equipped with the necessary manifolds, built-in-governor, water pump, ignition equipment, etc.

The engine is equipped with electrical starting motor, generator, batteries, and control board. A vacuum feed pump is attached to the carburetor and draws fuel from the supply source. Water inlet and outlet pipes connect with a water cooling tank. The engine is provided with telegraphic cord control which may be operated from the derrick floor. This long distance control regulates the speed of the engine just the same as steam.

The flywheel is light weight, insuring a smooth, even flow of power and correct tool action. To it is connected a heavy-duty disc clutch, driving a belt pulley which runs on ball bearings and carries a paper faced drive pulley of 17-inch diameter and 12-inch face. The drive shaft has an extension for a forge drive pulley.

The engine is mounted on a skidded frame, weighing approximately 5400 pounds.

Power from the engine is transmitted to the band wheel through a reverse clutch by the usual belt.

The clutch unit consists of a large belt drum or flange pulley which may be driven forward or reverse through two clutches. These large friction clutches provide the method of picking up the load without undue shock or jar.

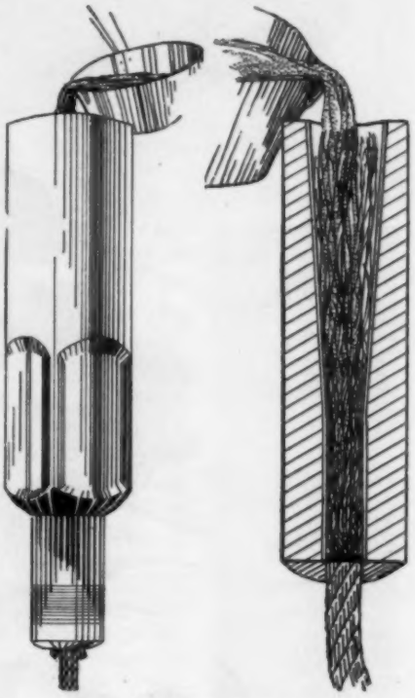
A brake, known as a neutral brake, is a part of the equipment. It is designed to hold the load stationary.

The clutches and brake are operated by one lever which has an extension running to the derrick floor. Thus by the use of this lever, the driller may drive, hold, or reverse the load the same as with steam. As the hole deepens, large balance wheels may be attached to the reverse clutch to slow down the tool action.

The clutch unit is mounted on a heavy structural steel skidded frame.

The complete outfit weighs approximately 9600 pounds.

Additional information will be mailed by the Climax Engineering Company Clinton, Iowa, upon request.



Alloy for socketing Wire Rope.

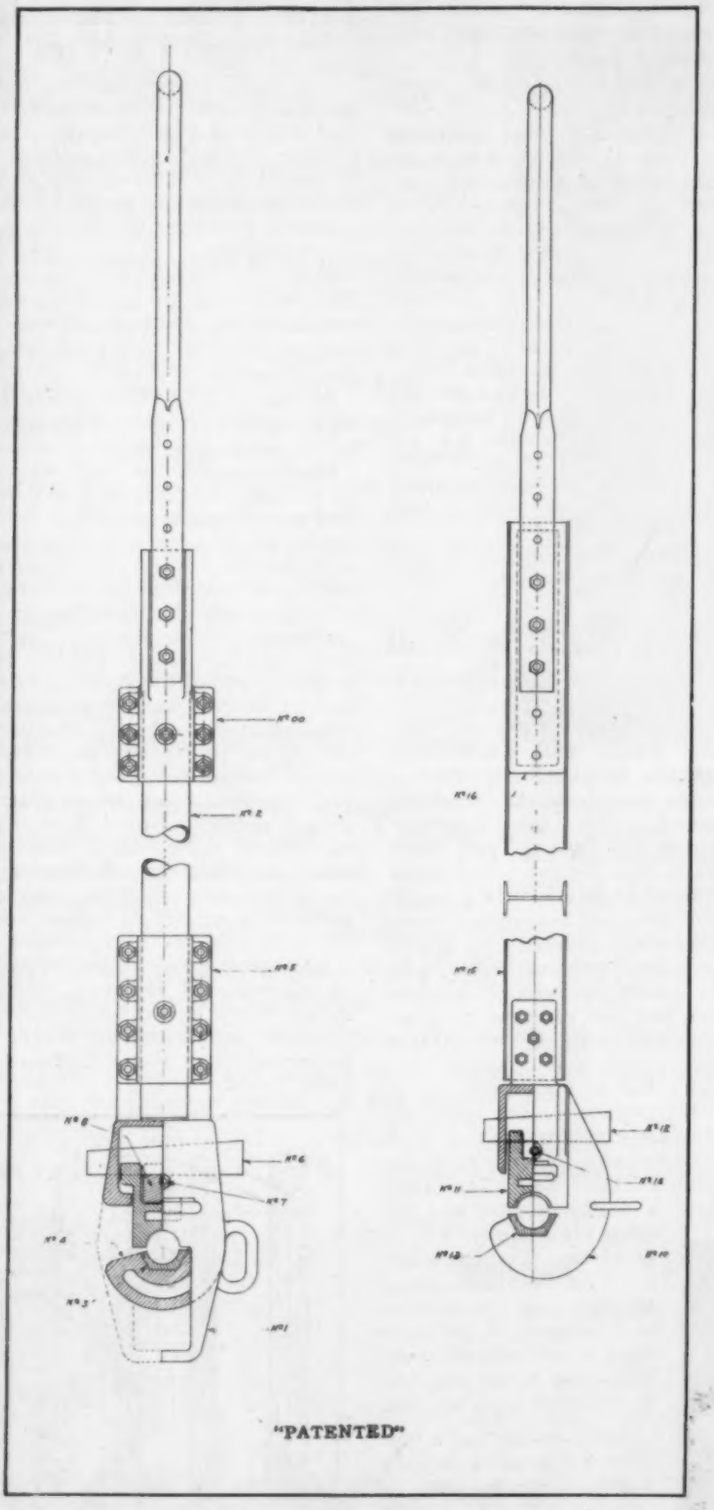
Eagle-Picher Company Offers Socketing Metal

After a long period of research, the Eagle-Picher Lead Company has produced a new alloy suited to the efficient socketing of wire rope.

Among the advantages claimed for the alloy are the following: it is lighter than ordinary babbitt and is about four times as hard, according to the manufacturers; it has maximum toughness and ductility; it will not crack or break under shocks,

Climax Power Units for Cable Tools.

STEEL PITMANS



"PATENTED"

—Here are the latest type, tried and proven steel Pitmans:

The heavy type pitman on the left is especially designed for efficiency with cable tool rigs.

The type shown on the right is for pumping **regardless** of depth.

Alignment of rig is assured when this type pitman is used.

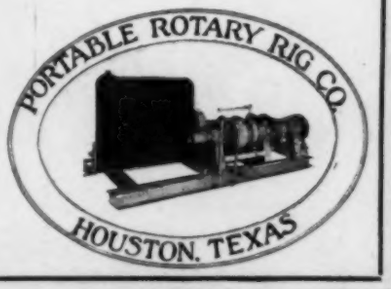
When the upper bearing is removed this pitman may be pulled straight back off the wrist pin without strain on the walking beam.

The wrist pin bearing is bronze, babbitt lined with positive key adjustment, preventing lost motion and shock to rods.

—Perfect Oiling

Special discount to Supply Stores

Manufactured By
PORTABLE ROTARY RIG COMPANY
HOUSTON, TEXAS.



Handy Flash Light Lantern.

strains or vibration; it forms a solid bond with wire rope and prevents strands from drawing unevenly; it holds the rope solid in the socket or swivel, preventing undue wear or strain at the top; it melts at 750 degrees F. and will pour easily and freely at 775 degrees.

The following instructions are given for the use of this metal: In using Eagle Rope Socket Metal, the wire rope should be cleaned from grease by treatment in lye. All rust should be removed with a 20 per cent solution of hydrochloric acid. The metal should be poured at the lowest temperature possible which makes the casting tougher. It is poured rapidly into the socket.

Further information and descriptive folders may be had from Eagle-Picher Lead Company, Joplin, Missouri, or from any Eagle-Picher branch office.

Handy Flash Light Lantern for Field Use

An electric flashlight lantern that should prove of great service in field operations is being manufactured and distributed by the Economy Electric Lantern Company, 549 W. Washington Boulevard, Chicago, Illinois.

The lantern is compact and is substantially made.

The bail folds down over the base and may be used either rigid in upright position or swinging.

There is a combination flasher button and sliding switch.

The bulb is set in a sleeve extending downward from a reflector, thus giving a combination spot and diffused light, and throwing a light upward at an angle of 45 degrees. Sufficient latitude in bulk contact takes care of variation of different bulb filaments for focusing concentrated light.

The lantern is equipped with concentrated Mazda filament bulb. There is a receptacle in the lid for two extra bulbs.

Any standard make of lantern type dry cell battery can be used in the lantern.

The complete lantern weighs two and one-half pounds. It is 11 inches high. The base is six inches in diameter. With the bail folded under, the height is nine inches.

Further information may be obtained from the company on request.

New BECO Baffle Wall Makes for Boiler Efficiency

A novel baffle wall construction known as the BECO Baffle Wall is now being manufactured, marketed and installed by the Boiler Engineering Company, 931 Federal Trust Building, Newark, New Jersey.

The feature of this wall is a simple continuous strip of corrugated metal placed diagonally as shown in the illustration. The strip of metal separates the plastic refractory material into layers, and this construction is applicable to any kind of water tube boiler.

The joint has a low co-efficient of friction, therefore does not resist expansion or construction.

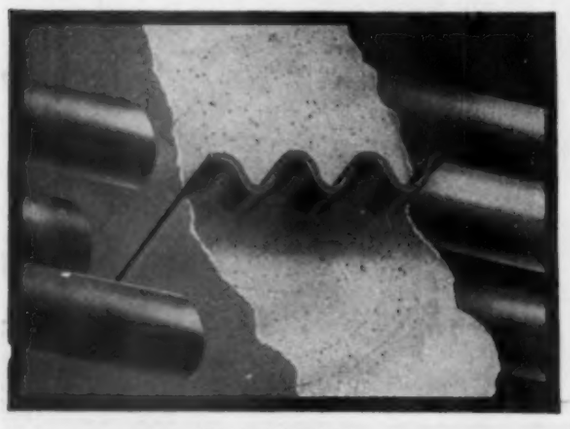
It is claimed also that no gases can get through a BECO wall. The corrugated joint is a sliding joint and the tubes are completely mortared into the plastic layers. By thus eliminating short-circuits from one pass to another the gases have to go through every pass, and maximum heat is extracted from the fuel.

Baffle walls of this type may be installed at any angle.

Tubes passing through the BECO wall are easily removed and replaced without injury to either he tubes or the wall.

The BECO joint is flexible and therefore relieves underlying and surrounding brick-work of much stress.

More complete information may be had from the company upon application.



Beco Baffle Wall.

Tank Thief Has Many Novel Features

A novel tank thief has been invented by Henry C. Beard, Sour Lake, Texas. The thief is for the purpose of taking a sample of liquid from a receptacle, and is adapted to be lowered to any desired depth. A special feature of the thief is a valve arrangement for trapping a sample of the fluid.

This valve arrangement embodies a novel valve structure and a manually operable releasing means whereby the valve may be closed and held tight when the desired sample is obtained.

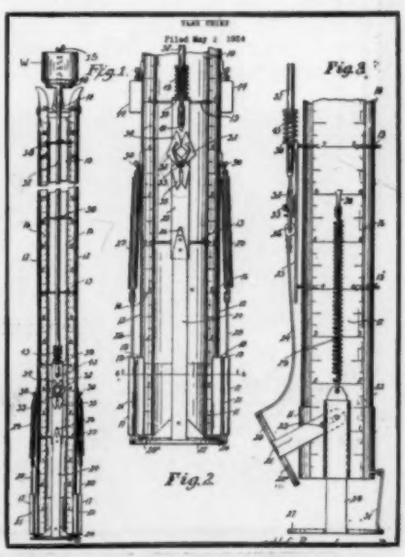
The device is said to be simple in construction, easy to use and operate, positive in action, and durable in service.

Briefly described, the outfit consists of an elongated tube provided with suspension means, a valve pivoted at the lower end of the tube and adapted to close the same, an elongated leaf spring carried by one edge of said valve and located against one side of the tube, means engaging said spring for holding the valve open and including a pair of arm members pivoted in cross relation, terminating at one end in jaws for engaging the spring and terminating at the other end in extensions, and means for forcing said extensions apart to release the spring.

The extensions are forced apart by a plunger slidably mounted through guides on the tube, and having a wedge shaped head. An upwardly spring-moved member slidably mounted at the lower end of the tube is adapted to engage and seat the valve when the spring is released.

A pivoted catch located in the path of movement of the valve holds the spring until it is released by the valve.

Further information on the thief can be secured from Henry C. Beard, Sour Lake, Texas.

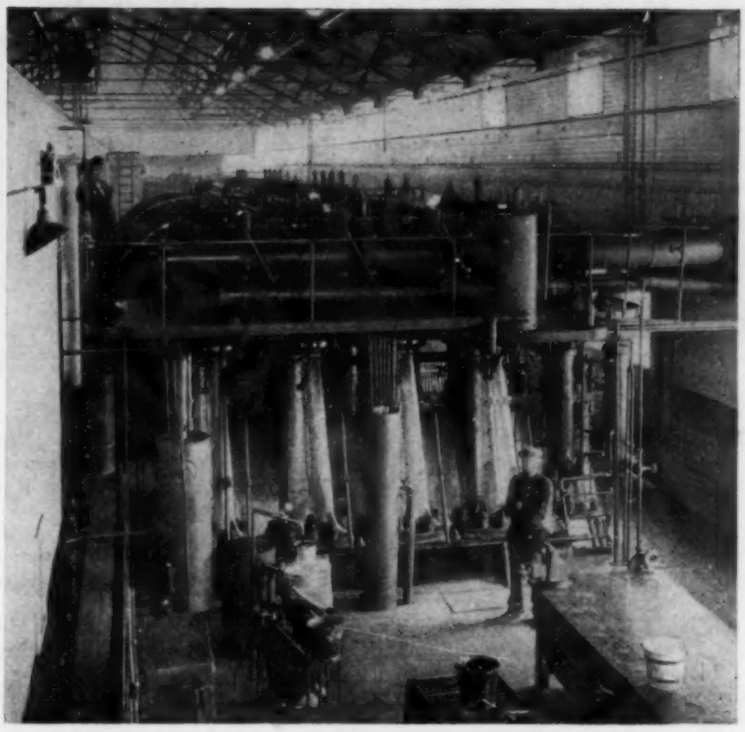


Beard Tank Thief.

Power for pumping---A service in which many Diesel engines have replaced triple-expansion steam engines

Perhaps the best evidence of Diesel engine superiority for dependable and economical pumping is the present almost universal use in the newer and the remodeled-older pumping stations of all large Mid-Continent oil pipe line companies.

These stations give their power a real test. They are located in isolated places, far apart, often have no spare unit, and the engineer in each is largely on his own resources. About 700 lbs. per square inch pressure is carried on the lines, and interruption of the 24-hour per day service in any one station would cause loss in the whole system. The power service must therefore be super-dependable as a first requisite, and on account of the heavy every-minute every-day load, the fuel consumption and labor expense must be watched with an eagle eye.



A battery of six 500-h.p. McIntosh & Seymour Diesel Engines in one of the pumping stations of a large pipe line company. This company has similar McIntosh & Seymour units of various size in many other stations. Some of these installations have been in service over ten years and all are thoroughly satisfactory.

Many McIntosh & Seymour Diesel Engines of sizes up to 800-b. hp., each have been meeting these stringent requirements so well that where oil can be used as fuel, the old time triple- expansion steam pumping units are no longer considered. The fuel consumption of the Diesel Engine in this service is about 1 pound of oil less per horsepower hour than that of the best reciprocating steam units and there is also a substantial saving in the labor item.

Any large pumping demand can be met with Diesel power, either by direct-connecting or gearing the pump to the engine or by utilizing the engine to drive a generator and taking the current from this t odrive a motor on the pump.

If you will tell us what and what quantity you have to pump, pressure on the discharge, and what kind of units are now in use, our Engineers will submit interesting cost and performance data.

BY INVITATION MEMBER OF

NEW YORK, U.S.A.

McIntosh & Seymour Corporation

Auburn, New York

New York City
149 Broadway

Kansas City, Mo.
1016 Baltimore Ave.

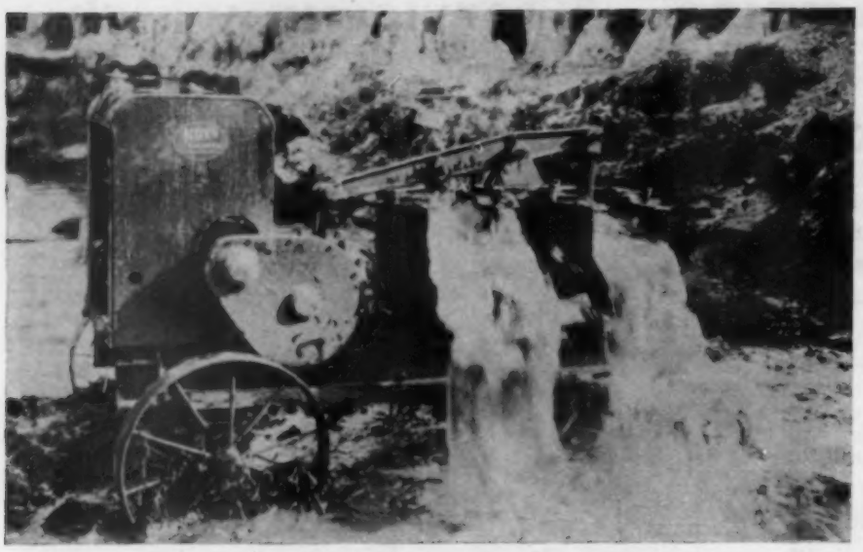
Houston, Texas
317 Humble Bldg.

Jacksonville, Fla.
412 Bisbee Bldg.

San Francisco
815 Sheldon Bldg.

McINTOSH & SEYMOUR DIESEL ENGINES

Say you saw it in The OIL WEEKLY



Novo Portable Pumping Unit.

Portable Pump Designed To Handle Big Volume

Designed to handle a large volume of water, the Novo Portable Pumping unit, put on the market about six months ago, is finding a wide application, and is suitable for oil field work. Company rating on this pump is from 16,000 to 20,000 gallons of water per hour. The total head is 20 feet.

A closed top force diaphragm pump (double) similar to the double open top diaphragm pump shown in the illustration, has a head of 50 feet, making it possible to lift the water to a distance of 30 feet above the pump, allowing the usual 20 feet for suction lift.

The power unit is the UF, 3-6 h.p., 2-cylinder, Timken Tapered Roller Bearing Engine. Utilizing an opposed throw counterbalanced crank shaft, the drive shaft and crankshaft run in Timken Tapered Roller Bearings. This reduces vibration in the engine to a minimum.

To reduce the engine speed to a slow reciprocating motion, an enclosed speed reducing unit, with crank arm is employed. This unit, designed for use with the Novo UF engine, is enclosed and is dirt proof. Gears run in a bath of oil; babbitted adjustable bearings are used, and the drive shaft pinion and speed reducer gear also run in oil and are enclosed in a gear case.

It is claimed by the company that the live rubber diaphragms with which this pump is equipped will operate, under normal conditions, from 150 to 200 hours.

More complete information may be obtained by writing the Novo Engine Company, Lansing, Mich.

Light Hoist Has Advantages of Big Machine

Features characteristic of heavy duty hoists but not usually found in light hoists are made use of in the Model NH, a light duty gasoline and electric hoist being manufactured by the Novo Engine Company, Lansing, Michigan.

The frame of this hoist is non-warping, welded, and tubular.

The hoist is a single free drum type. Double cone, hard maple frictions operated by a high carbon thrust screw are used.

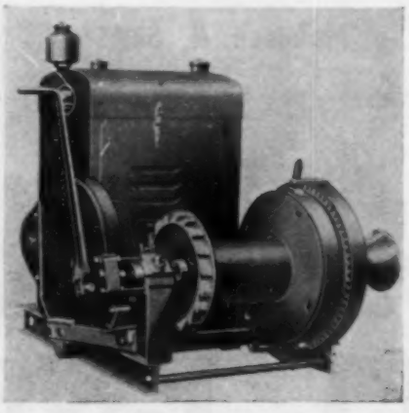
The drum, eight inches in diameter by 14 inches long is bronze bushed and has a ratchet cast on end at the operator's side of the hoist. A larger drum, 12 inches in diameter by 14 inches long can be furnished. Capacities of the drums are as follows: eight inch, 1250 feet of three-eighths-inch or 700 feet of one-half inch cable; 12 inch drum, 700 feet of three-eighths-inch or 400 feet of one-half inch cable.

Intermediate and drum shaft bearings are babbitt and are adjustable.

Lubrication is by the "Dot" high pressure grease gun.

These hoists are powered with Novo three, four, or six horse power single cylinder engines. Larger engines can also be furnished, as well as electric motors. The net weight of the hoist without the engine or motor, is 740 pounds.

More complete information may be obtained from the Novo Engine Company, Lansing, Michigan.



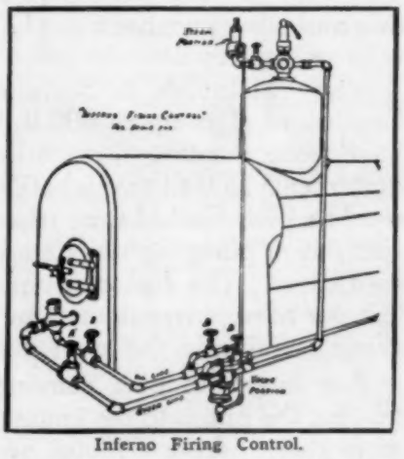
Novo Model NH Light Hoist.

Firing Control Maintains Steady Steam Pressure

A firing control for use on boilers at drilling wells has recently been perfected by The Inferno Company, Shreveport, Louisiana, and the device is finding a ready sale in the fields, according to its manufacturers.

The "Inferno Firing Control" was designed for use on cable tool rigs where two men constitute a crew, the driller and tool dresser, but its use is spreading to rotary rigs as well.

It is claimed that this control will not let the steam pressure vary over two and one-half pounds when firing with either oil or gas. When the control is used with oil, the main fire in the boiler is adjusted by the valves AA¹ (see illustration) sufficient to hold the desired steam pressure under full load one time. When the steam pressure goes two and one-half pounds above the desired pressure, release the adjusting screw on top of the Steam Portion until the fire is cut out. Then open the valves BB¹ sufficient to make a small pilot light. This is done only once at the start. When the steam pressure in the boiler falls two and



Inferno Firing Control.

one-half pounds below the desired pressure the Steam Portion releases, allowing the Valve Portion to open permitting the full amount of steam and oil to get to the burner. The full fire is resumed thus checking a decline in steam pressure. After the first set of the valves the firing is done automatically, never permitting the boiler to pop off, and maintaining a constant pressure of steam within two and one-half pounds of any desired amount.

When firing with gas, the Inferno Firing Control is connected as illustrated for firing with oil except that only one side of the Valve Portion is used. The gas is run through either side or both sides if the pressure is very low. When the fire is cut out, the by-pass valve around the valve portion of the control is opened sufficient for a pilot light. When the steam pressure falls as when

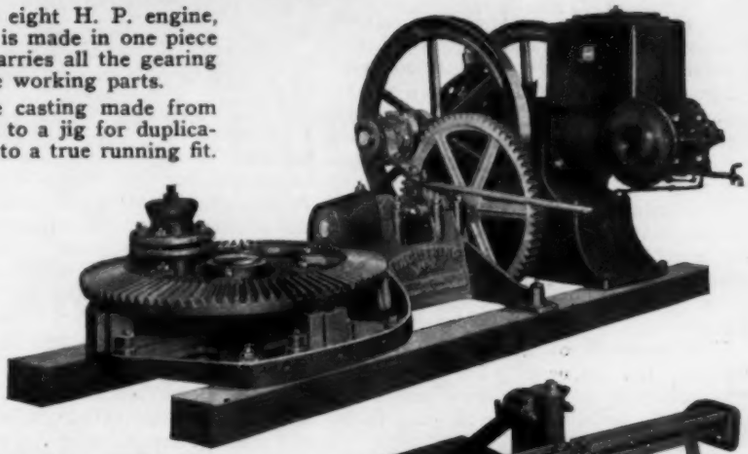
Oil Well Pumping Powers

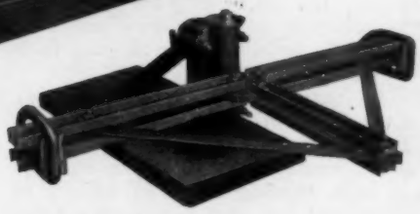
The No. 1 power is supplied with either a six or eight H. P. engine, and eight or twelve H. P. for No. 2. Base casting is made in one piece from a high grade mixture of SEMI-STEEL and carries all the gearing so that there can be no misalignment of any of the working parts.

Main or bevel gear is removable from the spindle casting made from high grade semi-steel, machined to a fit and drilled to a jig for duplication. Pinion is made of carbon steel and machined to a true running fit.

These powers are also made to run by belt.

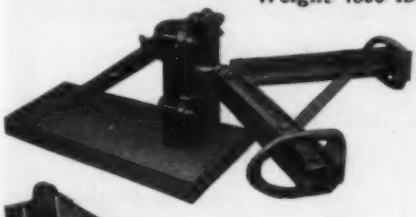
No. 1—Belt Drive 8x36 Pulley
Weight 1400 lbs.
No. 1—With 6 H. P. Engine
Weight 3000 lbs.
No. 1—With 8 H. P. Engine
Weight 3200 lbs.
No. 2—Belt Drive 10x36 Pulley
Weight 2000 lbs.
No. 2—With 8 H. P. Engine
Weight 3600 lbs.
No. 2—With 12 H. P. Engine
Weight 4600 lbs.





Lightning V Swing

The 180° Universal Swing as illustrated shows it made into a common V swing. Lightnings are the only Swings made adjustable. Made in 2 weights and styles.



High Speed Elevator

For use with Sucker Rod Spider. The most satisfactory rod pulling outfit made. Avoids bent rods and lost time. Rods cradle in elevator body and will not kink or release accidentally. Snaps on as naturally as placing your hat on your head.

Light pattern, 12 lbs.
Heavy pattern, 15 lbs.

Wire Line Beam Hanger

Long Stroke Beam Hanger for pumping wells. Especially adapted for long stroke pumpers. The most complete hanger made and will last indefinitely. Full adjustment.

Sucker Rod Spider

With this you need only one elevator and save 60% of your pulling time. Action automatic and sure. 2-in., 10 lbs.; 2½-in., 15 lbs.

Wire Line Hanger Grip

Stuffing Box

The lightning T. S. Lubricator Stuffing Box satisfies under the most adverse conditions.

Manufacturers of

Pumping Powers, Geared and Band Wheel.
Steel Grips
Polished Rod Rotators
Casingheads
Polish Rod Clamps
Rod Racks
Balanced Pumping Jacks
Centrifugal Pumps
Beam Yoke Castings for Wire Line Hangers

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Houston, Texas, Harry B. Shine.
All Putnam Supply Co. Stores.
All International Supply Co. Stores

Write for showing of full line

Kansas City Hay Press Co., Kansas City, Missouri

Oil Well Supplies

firing with oil, the main fire comes back on, checking a further decline in pressure.

Connections in the valve portion of the control are one inch which permits one control to fire as many boilers as one inch pipe will supply steam and oil or gas.

Additional information may be secured from the company upon inquiry.

Milburn Burner and Preheater Gives Maximum Combustion

In welding many castings, preheating is necessary to neutralize expansion and contraction strains or to effect economy of gases. The Alexander Milburn Company, 1416-1428 W. Baltimore Street, Baltimore, Maryland, recommends its new Oil Burner and Preheater, for work of this nature.

This burner and preheater is designed to give maximum combustion and greatest heat in the quickest possible time, thereby reducing overhead and resulting in greater output from men and machinery.

The burner is of the atomizing type, utilizing the cheapest g ade of crude, fuel, kerosene oil or distillate and compressed air under pressure varying from 50 to 100 pounds.

Two purposes are served by the air supply line. While furnishing a direct flow to the burner, the air also maintains a similar pressure in the oil storage tank, creating a greater velocity in the oil feed line, thus insuring a positive and uniform flow of both oil and air.

The flow of both oil and air is through straight-line orifices. The oil under pressure enters the atomizing chamber at right angles to it and in an angular form, while the compressed air flows directly through the center, striking the filament of oil and completely atomizing it, then expanding it in a venturi-shaped outlet.

Immediately upon opening the valves, the gas at the burner can be ignited and the work at hand can be started. Carbonization and oxidation are said to be eliminated.

More information regarding the burner can be had upon application to the company.

Milburn Preheater.

Milburn Cutting Torch.

New Cutting Torch Uses Natural Gas

The Alexander Milburn Company, 1416-1428 W. Baltimore Street, Baltimore, Md., manufacturers of welding and cutting equipment, has just placed on the market a gas cutting torch for use with illuminating and by-product gases.

This torch is the result of extensive experiment and research in the utilization of a cheaper fuel, thereby reducing cutting costs materially.

An outstanding feature of the Milburn torch is the superheater which heats and expands the cutting oxygen, also the preheating gases, raising the temperature of the cutting oxygen to approximately 100 degrees centigrade prior to combustion. This increases the temperatu.e of the gases at the torch tip, increases the rate of flame propagation in the burning mixture and reduces the oxygen consumption from 25 per cent upwards.

A bunsen burner, contained within the torch, bu.ns illuminating gas which heats the cutting oxygen as it passes through a series of copper coils. This superheater is an exclusive Milburn feature.

The heated and expanded oxygen in conjunction with the illuminating gas, gives better penetration into the metal, a narrow kerf and sharp, clean edges, speedy and smooth cutting with a notable absence of metallic slag on the underside of the cut.

The torch operates on city or natural gas, which minimizes the cost of operation and also affords a high degree of safety.

The torch is ruggedly constructed of bronze forgings and specially drawn tubing. The high pressure cutting oxygen is controlled by a thumb valve which remains fixed in either open or closed position. The arrangement of the gas tubes gives the torch great transverse strength. It is substantially built, well balanced and easy to handle. The torch is 21 inches in length and is supplied with a complete range of tips for light, medium and heavy cutting.

Further information may be had by request from the company.

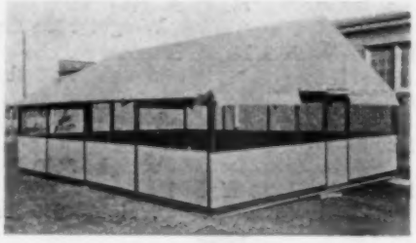
Portable Canvas Houses Used in Tropics

The Close-to-Nature Company, Colfax, Iowa, is manufacturing portable canvas houses that are finding a big demand among oil companies, especially those that operate in the tropics.

The entire upper half of the walls is covered with a fine mesh copper screen, which is furnished in 16 to 30 mesh, depending upon the country or locality in which it is used. The top and gables are built in one piece in the shape of a hood. Shutters in the side walls slide in steel grooves and are easily operated. All members used in the house proper are equipped with Rustless Cadmium plated carriage bolts and wing nuts.

Shutters are adjustable to any height, and are operated from ropes inside the buildings. It is never necessary to completely close or raise the side wall shutters, as the projecting eaves drop sufficiently to guard against rain entering, thus providing certain circulation of fresh air at all times, notwithstanding a long siege of inclement weather. The front and rear are equipped with roll-up awnings or curtains, as is the upper half of each door.

Most of the South American camps are fitted with these portable canvas houses. Fu.ther information can be obtained from the company, by request.



Portable Canvas House.

Blanton Sand Trap Kills Agitation of Fluid

After more than two years of experimenting with the Blanton Sand Trap, this product has now been put on the market and is being widely used in the Mid-Continent.

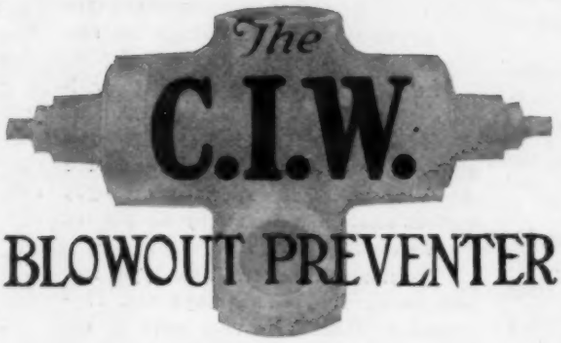
Arrangement of the trap is such that the oil cannot be pumped lower than the top holes, thereby making a position and tubing, holding the gas and floating sand on the outside of the tubing. It also prevents a vacuum from affecting the ball in standing and traveling valves, since the gas is held on the outside of the tubing.

It is claimed that the trap eliminates all agitative oil seal in perforation of the fluid, allowing the sand to settle to the bottom of the anchor.

Further information may be had from the Blanton Sand Trap Company, Wichita Falls, Texas, and the trap may be obtained through supply dealers.

For Insurance Against Blowouts-

Manufactured by Cameron Iron Works, Inc.



Tested and Guaranteed to Hold 2,000 pounds Cold Water Pressure

Is the Best Policy

Also Manufacturers of

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Fish Tail Bits	Latch Jacks	Pipe Perforators
Pump Repair Parts	Overshots	Special Set Shoes
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Steel Bushings	Taper Taps	Tool Joints—Rotary
Choker Nipples	Wash Down Spears	Rope Packers

C. I. W. Patented Internal Rotary Casing Cutter

Instantaneous Service As You Need It

CAMERON IRON WORKS

HOUSTON, TEXAS

Electric Pipe Machine Is Stationary or Portable

Hall-Will, Inc., Erie, Pennsylvania, manufacturers of a complete line of precision, production machines, has placed on the market their first tool, the Red-E-Hall Portable Electric Pipe Machine, capacity one-quarter-inch to two-inch pipe, and one-half to one and one-half inch bolts. It can also be used as power unit, using universal shaft to drive hand stocks up to 12-inch.

This tool is designed as a portable machine but can be changed over in three minutes to a stationary machine.

The machine is malleable iron and steel construction throughout and weighs 450 pounds.

Built-in truck—elevating for portable operation. Rear feet of machine are mounted on small wheels, while front feet are provided with double swivel castors, which elevate front of machine when handle is moved forward. If machine is not going to be moved frequently, truck, wheel and castors can be dismantled and laid away until required.

Friction clutch—for stop and start—operated by lever handle on top of machine—handy for checking threads, trying on fittings and screwing up parts.

Silent chain drive—direct from motor to machine.

Motor is one horsepower, 1750 R.P.M. reversible, bolted direct to main frame, well out of the way yet handy to get at for adjustment or oiling. Push or turn button control—stop, start and reverse—attached to outside of bed convenient for operator.

Timken roller bearing on all drive shafts. Easy to adjust and provided for thrust when necessary—self oiling.

Three speeds—extra fast for cutting off—all gears and shafts run in oil—self lubricated—speed changed by selective slide system—neutral position between all shafts.

Gears are nickel chrome steel—heat treated. Close nipples can be threaded without extra equipment using only the standard chuck on machine. The lever handle on top of die head provides an easy method for opening and closing die head. Once the die head has been set to a given size it can always be brought back to the same position by simply pulling down lever to locking position. Adjustments for over-size and under-size threads have also been provided for by turning the two narrow nuts on head bracket; on the outside of cam and handy for operator are the graduations and markings for setting die head for various sizes of pipe.

The locking device on head is positive. Impossible for head to open or slip while thread is being cut. The cutting oil is forced into a chamber in the die head and three specially arranged outlets allow it to be amply distributed on the dies.

Cut-off attachment is new type, fast and serviceable. The ways and support for V block is cast solid to die head, wide face and with long bearings.

The cut-off block is mounted on front V block. Taper steel gib insures proper adjustment of tool block, keeping it steady at all times. Blade is double bevel high speed tempered the entire length, set at proper angle to give the best cutting results. Handle on cut off screw allows the rapid operation of cut off tool.

Double opposed V block with interchangeable hardened tool steel plates hold pipe absolutely steady for cutting off. Impossible for pipe to climb on cut-off tool or chatter. The rear block opposite cut-off blade is extra wide as this block takes most of the natural thrust and wear from cut-off tool.

V blocks are operated by handle on rear side of machine which is attached to right and left hand screw fitted to phosphorus bronze nut in each block.

Reamer and chamfer lever is mounted on cut off block, swivel type with high speed and steel bit.

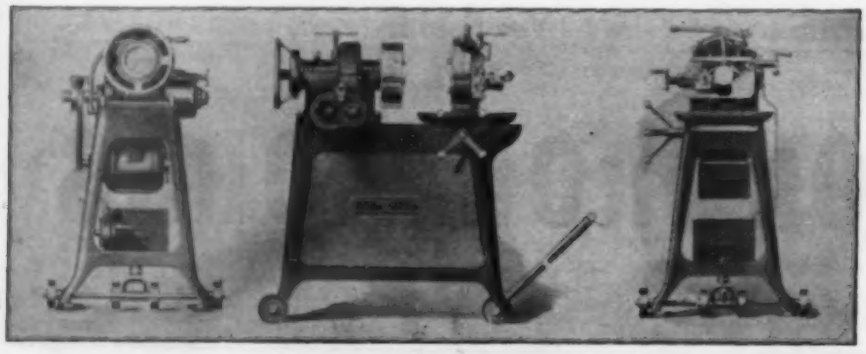
In the front end of bed is the chip pan and oil chute which delivers the cuttings to the chip box from where the oil drains off through two strainers to the oil reservoir just below. The chip pan can be removed quickly and is of ample capacity.

The oil pump is rotary geared, reversible, driven direct from motor—constant speed. This method insures the delivery of the maximum volume of oil at all times, the pump being on a level with the reservoir, it is always primed, reducing chance of pump trouble. Tool tray is provided to the rear of oil reservoir which makes a handy and private place for all tools, dies, etc.

As a power unit, with the aid of a universal shaft, the machine will drive hand stocks up to and including 12-inch, without dismantling machine. This machine threads right and left hand pipe, cuts off and reams.

Four sets of chasers to cover complete range of machine. One set cutting one-quarter and three-eighths; one-half and three-quarters; one and one-quarter; one and one-half and two - inch. Standard equipment includes four extra sets of dies as specified above or at option of purchaser.

More data will be sent by the company on request.



Hall-Will Electric Pipe Machine.

Cunningham Offers Swab

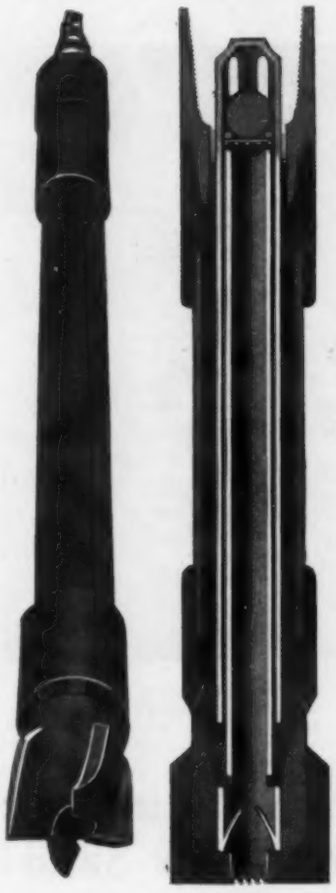
The New Improved Standlee Swivel Swab which is manufactured and sold by the Cunningham Company of Tulsa, is especially designed for heavy duty and quantity production.

The ball bearing swivel which takes the friction load off the line as it twists and eliminates the rotation of the swab in the hole, the inner fluid expansion rubbers which run into the hole free, the automatic unloader device which prevents overloading, a large fluid opening, and many other features built into this swab make it suitable for heavy production.

Cunningham Standlee Swivel Swab.

Additional information and literature will be gladly furnished by the Cunningham Company.

PERFECTION CORE BARREL
100% Perfect Cores



No Core Removal Difficulties
Perfection Core Bit Heads
Make More Hole Than Fish
Tail Bits

CORES from 5 to 25 feet long are readily taken in any formation, and can always be successfully removed. The split liner containing the core is easily pulled from the inner barrel by unscrewing the tool joint and cage at the top. Thus cores of any length can be removed without breaking.

Perfection Core Bit Heads will make more hole than fish tail bits. Used heads can be exchanged for new ones at a nominal charge for dressing.

Perfection Core Barrels come in the following sizes:
4¼", 5⅝", 5⅞", 6¼", 7½"

MANUFACTURED BY

OIL CITY IRON WORKS
Better Oil Field Equipment and Supplies
SHREVEPORT, LA.

Inquiries from the Gulf Coast District should be addressed to WILSON SUPPLY CO., HOUSTON, TEXAS

20 "Jobs" In Spindletop

Without One Failure!

Between August 30th and November 25th

Pipe cut from below 5500 ft. in Phoenix B-1 well of Vacuum Oil Co. with cutting tool and cut pipe in foreground. Personnel of crew from left to right—Henry Fouts, operator; H. H. Wilkins, C. M. Abercrombie, D. F. Chance, J. Wilkins, P. Dugas, Frank Earley, J. Moore.

Big Production Resulted From Cutting Out Pipe and Drilling Wells To Deeper Sand!

—and We Did Every Cutting Job in Spindletop!

THE INDUSTRY is still talking about the great jump in production that boomed Spindletop a few months ago—and much of that increase came from old wells in which we cut out and removed the liner and screen from the bottom, so that they could be drilled deeper to the "big pay" sands.

—This is the "short cut" to added production in oil wells, without the expense of drilling a new well, or whip-stocking casing. The J. S. Abercrombie Inside Cutting Tool SAVES all the footage, does not interfere with casing seat, and leaves casings in perfect condition for additional drilling.

J. S. Abercrombie Co.

616-18 West Bldg. Houston, Texas

Summary of Field Operations for November

Eastern States

	Completions	Producers	Gas Wells	Failures	Initial Prod.
Pennsylvania	196	162	21	13	769
Kentucky	89	66	8	15	1,207
West Virginia	134	34	82	18	600
Ohio	248	107	76	65	2,661
New York	25	25	..	..	76
Indiana	13	7	1	5	551
Illinois	38	23	..	15	737
Michigan	21	18	..	3	360
Totals	764	442	188	134	6,761

PENNSYLVANIA

Beaver	4	2	1	1	6
Bradford	120	120	..	..	372
Butler	11	8	2	1	46
Center-Middle	10	9	1	..	20
Clarion	4	1	1	2	2
Crawford	2	2	..	..	4
Forest	1	..	..	1	..
Greene	20	4	12	4	285
Mercer	2	1	1	..	2
Venango	20	15	2	3	32
Washington	2	..	1	1	..
Totals	196	162	21	13	769

KENTUCKY

Allen	7	6	..	1	17
Barren	22	21	..	1	367
Cumberland	1	1	..	..	150
Estill	3	2	..	1	11
Floyd	7	..	7	..	..
Johnson-Magoffin	10	10	..	..	139
Lawrence-Johnson	7	7	..	..	48
Morgan	3	2	1	..	5
Owensboro	22	12	..	10	450
Simpson	1	1	..	..	3
Warren	2	1	..	1	5
Wayne	3	2	..	1	7
Wolfe	1	1	..	..	5
Totals	87	66	8	15	1,207

WEST VIRGINIA

Boone	6	..	5	1	..
Braxton	2	..	2	..	..
Cabell	3	..	3	..	..
Calhoun	4	1	3	..	200
Clay	7	7	..	..	130
Doddridge	5	3	2	..	22
Gilmer	11	1	8	2	2
Harrison	8	1	6	1	55
Kanawha	3	..	3	..	..
Lewis	3	1	2	..	5
Logan	2	..	2	..	..
Lincoln	11	1	9	1	5
Marion	5	..	5	..	..
Marshall	4	1	2	1	2
Mingo	1	1	..	..	10
Monongalia	1	..	1	..	..
Pleasants	4	3	..	1	55
Ritchie	14	2	8	4	35
Roane	18	2	15	1	6
Upshur	1	1	..	..	1
Wayne	1	..	..	1	..
Wetzel	8	1	6	1	25
Wirt	2	1	..	1	2
Wood	10	7	..	3	45
Totals	134	34	82	18	600

MICHIGAN

Bay	1	..	..	1	..
Saginaw	20	18	..	2	360
Totals	21	18	..	3	360

INDIANA

Daviess	1	1	..	..	200
Pike	10	6	1	3	351
Sullivan	2	..	..	2	..
Totals	13	7	1	5	551

ILLINOIS

Clark	3	2	..	1	19
Crawford	5	5	..	..	39
Lawrence	4	4	..	..	56
Marion	1	1	..	..	6
Morgan	1	1	..	..	5
Wabash	24	10	..	14	612
Totals	38	23	..	15	737

OHIO

County—	Completions	Producers	Gas Wells	Failures	Initial Prod
Allen	1	1	..	..	35
Ashland	14	..	10	4	..
Athens	15	4	8	3	20
Auglaize	3	2	..	1	30
Coshocton	3	..	2	1	..
Cuyahoga	10	..	5	5	..
Darke	3	3	..	..	115
Guernsey	27	5	18	4	299
Hancock	7	6	..	1	105
Hardin	3	1	1	1	30
Hocking	17	8	6	3	157
Holmes	11	6	3	2	300
Jefferson	2	1	..	1	10
Knox	11	4	1	6	35
Licking	20	15	1	4	347
Lorain	2	..	1	1	..
Lucas	1	1	..	..	3
Medina	8	2	3	3	21
Meigs	3	..	3	..	..
Mercer	6	5	..	1	45
Morgan	13	5	6	2	37
Muskingum	6	4	1	1	341
Noble	5	4	..	1	9
Ottawa	1	1	..	..	6
Perry	11	7	..	4	450
Sandusky	2	2	..	..	15
Shelby	2	2	..	..	67
Summit	1	..	..	1	..
Van Wert	1	1	..	..	5
Vinton	6	4	1	1	9
Washington	16	2	3	11	7
Wayne	7	1	3	3	10
Wood	10	10	..	..	153
Totals	248	107	76	65	2,661

NEW YORK

Allegany	25	25	..	..	76

California

Long Beach	14	6	3	5	983
Athens-Rosecrans	5	5	..	..	2,810
Cat Canyon	1	..	..	1	..
Dominguez	..	..	..	..	..
Elk Hills	..	..	..	..	..
Baldwin Hills-Inglewood	3	3	..	..	1,828
Torrance-Redondo	2	2	..	..	622
Huntington Beach	30	29	..	1	32,500
Hovey Hills	..	..	..	..	..
Brea-Richfield	7	7	..	..	3,110
Rideout Heights	..	..	..	..	..
Midway	4	4	..	..	642
Montebello	2	1	1	..	230
Kern Front	..	..	..	..	..
Seal Beach	2	2	..	..	2,800
Sunset	5	3	..	2	400
Ventura Avenue	4	4	..	..	11,211
Poso Creek	..	..	..	..	..
Santa Barbara	..	..	..	..	..
Wheeler Ridge	1	1	..	..	70
Wildcats	6	3	..	3	68
Totals	86	70	4	12	57,274

Mountain States

Wyoming	18	12	..	6	15,960
Montana	28	22	1	5	4,425
Colorado	2	..	..	2	..
New Mexico	3	3	..	..	2,425
Totals	51	37	1	13	22,810

COLORADO

Moffat	1	..	..	1	..
Wellington	1	..	..	1	..
Totals	2	..	..	2	..

WYOMING

Big Muddy	1	1	..	..	30
Brenning Basin	1	..	..	1	..
Lost Soldier	1	1	..	..	210
Mule Creek	1	..	..	1	..
Natrona County	1	..	..	1	..
Salt Creek	10	9	..	1	15,620
S. Marys	1	..	..	1	..
Sunsine	1	1	..	..	100
Wilson Dome	1	..	..	1	..
Totals	18	12	..	6	15,960

NEW MEXICO

	Completions	Producers	Gas Wells	Failures	Initial Prod.
Rattlesnake	2	2	..	..	2,400
Eddy County	1	1	..	..	25
Totals	3	3	..	..	2,425

MONTANA

Kevin-Sunburst	28	22	1	5	4,425

Kansas

Butler	27	21	..	6	2,561
Cowley	13	4	1	8	455
Elk	10	5	1	4	830
Chautauqua	3	1	..	2	40
Greenwood	50	36	..	14	4,570
Kingman	3	..	..	3	..
Sumner	12	6	..	6	5,104
Russell	2	2	..	..	210
Lyon	4	4	..	..	525
Woodson	4	2	..	2	30
Graham	1	..	..	1	..
Reno	4	..	..	4	..
Rice	1	..	..	1	..
Marion	1	..	..	1	..
Chase	1	..	..	1	..
Barber	1	..	..	1	..
Franklin	1	..	..	1	..
Lincoln	1	..	..	1	..
Logan	1	..	..	1	..
Shawnee	1	..	..	1	..
McPherson	1	..	..	1	..
Ellsworth	1	..	..	1	..
Total	143	81	2	60	14,325

KANSAS PRODUCTION SUMMARY FOR NOVEMBER

Field	Daily Av.	Total
Florence-Covert	1,975	57,750
Peabody-Elbing	4,100	123,000
Eldorado-Towanda	13,625	408,750
Augusta-Fox Bush	4,987	149,610
Rainbow Bend	3,250	97,500
Russell	4,350	130,500
Greenwood County	45,212	1,356,360
Other fields	37,262	1,117,860
TOTAL		3,441,360

Oklahoma

	Completions	Producers	Gas Wells	Failures	Initial Prod.
Carter	29	24	..	5	4,709
Creek	74	42	8	24	7,535
Garfield	19	12	..	7	3,144
Grady	16	11	5	..	1,153
Kay	28	14	2	12	16,799
Okfuskee	13	3	2	8	210
Okmulgee	44	19	4	21	1,581
Osage	35	24	3	8	1,981
Pawnee	15	9	1	5	347
Payne	9	5	..	4	722
Pottawatomie	1	1	..	..	2,667
Seminole	47	38	1	8	108,015
Tulsa	13	5	2	6	310
Wagoner	15	3	3	9	87
Love	1	..	..	1	..
McIntosh	2	..	..	2	..
Noble	2	..	..	2	..
Muskogee	13	4	3	6	971
Texas	2	..	..	2	..
Pittsburg	3	..	2	1	..
Jefferson	3	1	..	2	14
Lincoln	5	2	..	3	110
Kingfisher	1	..	..	1	..
Comanche	2	..	..	2	..
Murray	1	..	..	1	..
Nowata	1	1	..	..	15
Caddo	4	2	..	2	32
Logan	1	..	..	1	..
Hughes	11	4	..	7	977
Stephens	15	6	..	9	395
Oklahoma	2	..	..	2	..
Totals	427	230	36	161	149,894

OKLAHOMA PRODUCTION SUMMARY FOR NOVEMBER

Field—	Daily Av.	Total
North Braman	26,000	780,000
South Braman	5,900	177,000
Blackwell	3,800	114,000
Hubbard	2,675	80,250
Thomas	2,087	62,610
Tonkawa	34,188	1,025,640
Garber	23,537	706,110
Burbank	47,100	1,413,000
Other Osage	34,375	1,031,250
Watchorn	3,838	115,140
Cushing	21,425	642,750
Yale-Jennings	13,350	400,500
Davenport	5,550	166,500
Bristow-Slick	26,975	809,250
North Okmulgee	17,412	522,360
Lyons-Deaner	3,938	118,140
Stroud	1,937	59,110
Cromwell	16,013	480,390
Papoose	9,350	280,500
Wewoka	25,537	766,110
Duncan Dist.	7,350	220,500
Graham	9,300	279,000
Fox	3,100	93,000
Healdton	14,875	446,250
Hewitt	10,975	329,250
Seminole	109,963	3,298,890
Others	72,000	2,760,000
TOTAL		17,177,500

Arkansas

Field—	Completions	Producers	Gas Wells	Failures	Initial Prod.	Monthly Prod.
Bradley	1	1	..	..	20	.....
El Dorado	..	..	..	..	....	204,360
Nevada	4	3	..	1	195	56,250
Lisbon	16	15	..	1	368	204,000
Smackover	30	19	5	6	1,461	3,859,860
Stephens	1	1	..	..	5	45,750
Wildcats	5	1	..	4	20	.....
Totals	57	40	5	12	2,069	4,370,220

EAST TEXAS

Marion Co.	4	..	4	..	....	.....
Panola	1	..	..	1	....	.....
Waskom	..	..	..	..	....	.....
Totals	5	..	4	1	....	.....

North Louisiana

Bellevue	3	1	1	1	5	58,110
Caddo Parish	20	16	2	2	1,703	434,610
Homer	..	..	..	..	....	165,000
Cotton Valley	..	..	..	..	....	212,250
Monroe	5	..	2	3	....	.....
Urania	15	13	..	2	1,300	440,610
Shongaloo	1	..	1	..	....	.....
DeSoto-Red River	..	..	..	..	....	124,110
Elm Grove	..	..	1	..	....	16,500
Haynesville	1	1	..	..	30	268,500
Wildcats	26	..	..	26	....	.....
Totals	72	31	7	34	3,038	1,719,690
La. Gulf Coast	10	7	2	1	2,510	344,610
La. Total	82	38	9	35	5,548	2,064,300

LOUISIANA GULF COAST

Vinton	7	5	1	1	2,300	175,860
Evangeline	..	..	..	..	....	37,500
Edgerly	2	2	..	..	210	24,750
Lockport	1	..	1	..	....	106,500
Totals	10	7	2	1	2,510	344,610

Texas

North Tex.	431	317	9	105	60,971	8,004,190
Central and W. Texas	246	147	12	87	35,152	3,001,180
E. Cen. Tex.	18	8	..	10	2,810	1,697,220
Gulf Coast	75	52	..	23	71,248	4,848,490
SW. Texas	20	11	9	..	1,985	1,277,940
E. Texas	5	..	4	1	....	.....
Totals	795	535	34	226	172,166	18,829,020

NORTH TEXAS

Field—	Completions	Producers	Gas Wells	Failures	Initial Prod.	Monthly Prod.
Archer Co.	81	44	..	37	5,745	1,036,500
Baylor Co.	1	..	..	1	....	.....
Burkburnett	22	12	..	10	790	432,250
Carson Co.	9	4	4	1	670*	.....
Clay Co.	1	..	..	1	....	.....
Cooke Co.	12	11	..	1	430	.....
Electra	24	14	..	10	445	501,360
Gray Co.	27	24	..	3	5,570	.....
Hutchinson Co.	104	99	3	2	36,275†	4,469,610
Panhdle Mis.	..	..	..	..	....	412,110
Jack Co.	4	3	..	1	245	.....
K-M-A and Iowa Park	16	10	..	6	555	122,250
Montague Co	60	53	..	7	3,796	310,500
So. Vernon District	22	15	..	7	2,885	451,110
Throckmorton Co.	6	1	1	4	600‡	.....
Wheeler Co.	3	2	1	..	1,120§	.....
Young Co.	34	24	..	10	1,545	237,750
Others	..	..	..	..	....	30,750
Wildcats	5	1	..	4	300	.....
Totals	431	317	9	105	60,971	8,004,190

*Includes 65,000,000 ft. gas.
†Includes 120,000,000 ft. gas.
‡Includes 1,500,000 ft. gas.
§Includes 30,000,000 ft. gas.

CENTRAL AND WEST TEXAS

Big Lake	14	12	1	1	9,175*	915,750
Brown Co.	78	58	1	19	8,492†	446,250
Callahan Co.	8	6	..	2	110	111,750
Coleman Co.	8	..	..	8	....	23,040
Desdemona-Crane Co.	6	6	..	..	907	.....
Comanche	2	2	..	..	60	52,750
Eastland Co.	23	4	3	16	665‡	167,250
Howard Co.	4	4	..	..	270	.....
Mitchell Co.	3	3	..	..	340	55,560
Palo Pinto County	4	1	1	2	15§	13,110
Shackelford County	42	26	3	13	6,895¶	283,500
Stephens Co.	9	2	3	4	245‖	326,610
Crane-Upton	..	..	..	..	....	532,860
Upton Co.	22	20	..	2	7,005	.....
Others	..	..	..	..	....	72,750
Wildcats	23	3	..	20	973	.....
Totals	246	147	12	87	35,152	3,001,180

*Includes 10,000,000 ft. gas.
†Includes 1,750,000 ft. gas.
‡Includes 12,500,000 ft. gas.
§Includes 1,500,000 ft. gas.
¶Includes 54,000,000 ft. gas.
‖Includes 32,000,000 ft. gas.

GULF COAST

Batson	4	2	..	2	35	50,250
Big Creek	2	2	..	..	700	42,000
Blue Ridge	3	2	..	1	2,075	52,860
Boling	..	..	..	..	....	74,250
Damon Md.	..	..	..	..	....	31,860
Goose Creek	5	2	..	3	65	227,610
High Island	1	..	..	1	....	.....
Hull	8	7	..	1	3,890	635,250
Humble	..	..	..	..	....	126,000
Orange	4	2	..	2	1,400	206,110
Pierce Jct.	5	3	..	2	2,360	184,110
Saratoga	..	..	..	..	....	37,110
Spindle Top	26	20	..	6	54,578	2,510,610
So. Dayton	3	3	..	..	3,000	.....
So. Liberty	1	..	..	1	....	146,610
Sour Lake	7	7	..	..	1,695	194,250
W. Columbia	2	2	..	..	1,450	269,610
Wildcats	4	..	..	4	....	.....
Others*	..	..	..	..	....	60,000
Totals	75	52	..	23	71,248	4,848,490

*Includes Nash Dome, Markham, Barbers Hill and Orchard.

SOUTHWEST TEXAS

Field—	Completions	Producers	Gas Wells	Failures	Initial Prod.	Monthly Prod.
Duval Co.	3	..	3	..	....	4,500
Laredo Dist.	12	8	4	..	1,210	491,250
Lytton Sprgs.	..	..	..	..	....	103,860
Kleberg Co.	2	2	..	..	275	.....
Medina Co.	2	..	2	..	....	.....
Luling	1	1	..	..	100	603,360
Somerset	..	..	..	..	....	58,860
Others	..	..	..	..	....	16,110
Totals	20	11	9	..	1,585	1,277,940

EAST CENTRAL TEXAS

Corsicana-Powell	1	..	..	1	....	735,750
Currie	..	..	..	..	....	23,250
Mexia	1	1	..	..	180	337,860
Nigger Cr.	8	6	..	2	2,130	369,000
Richland	1	1	..	..	500	41,250
Wortham	..	..	..	..	....	190,110
Wildcats	7	..	..	7	....	.....
Totals	18	8	..	10	2,810	1,697,220

Three Good Completions At Salt Creek

Casper, Wyo.—The remarkable production record of the Lakota sand in the Salt Creek field was maintained during the past week with the completion by the Midwest Refining Company interests of three large wells. The largest producer was completed on the northeast quarter of section 35-40-79 and flowed 4800 barrels during the first day. Two other Lakota sands wells were completed on adjoining sections and each flowed more than 1000 barrels daily. The Salt Creek field is the only one in the Rocky Mountains which has yielded gushers in three distinct formations. The first Wall Creek, the second Wall Creek and the Lakota sands have furnished spectacular producers and each is now producing large quantities of oil.

Bovaird Add Line

Tulsa.—The Bovaird Supply Company with general offices in the Mid-Continent building in Tulsa and branches throughout the oil country now are sales agents in the Mid-Continent for the Leidecker spiral bits, manufactured by the Leidecker Tool Company of Marietta, Ohio.

The Bovaird Supply Company is successors to the Spiral Bit Company of Tulsa and will carry a complete stock of bits at all points where Bovaird stores are located.

Gott Enlarging Plant

Winfield, Kans.—The H. P. Gott Manufacturing Company of this city is carrying extensive improvements in their plant and office building as a result of a greatly increased business on their water cans in the oil country this year. Another story is being added to the office building and plant that will more than double the available working space. The upper floor will be devoted to manufacturing and the lower floor to warehouse and storage space.

The building will be of brick and steel construction throughout and when completed will be 60 by 100 feet. Also some new machinery is being installed. H. P. Gott is president of the company.

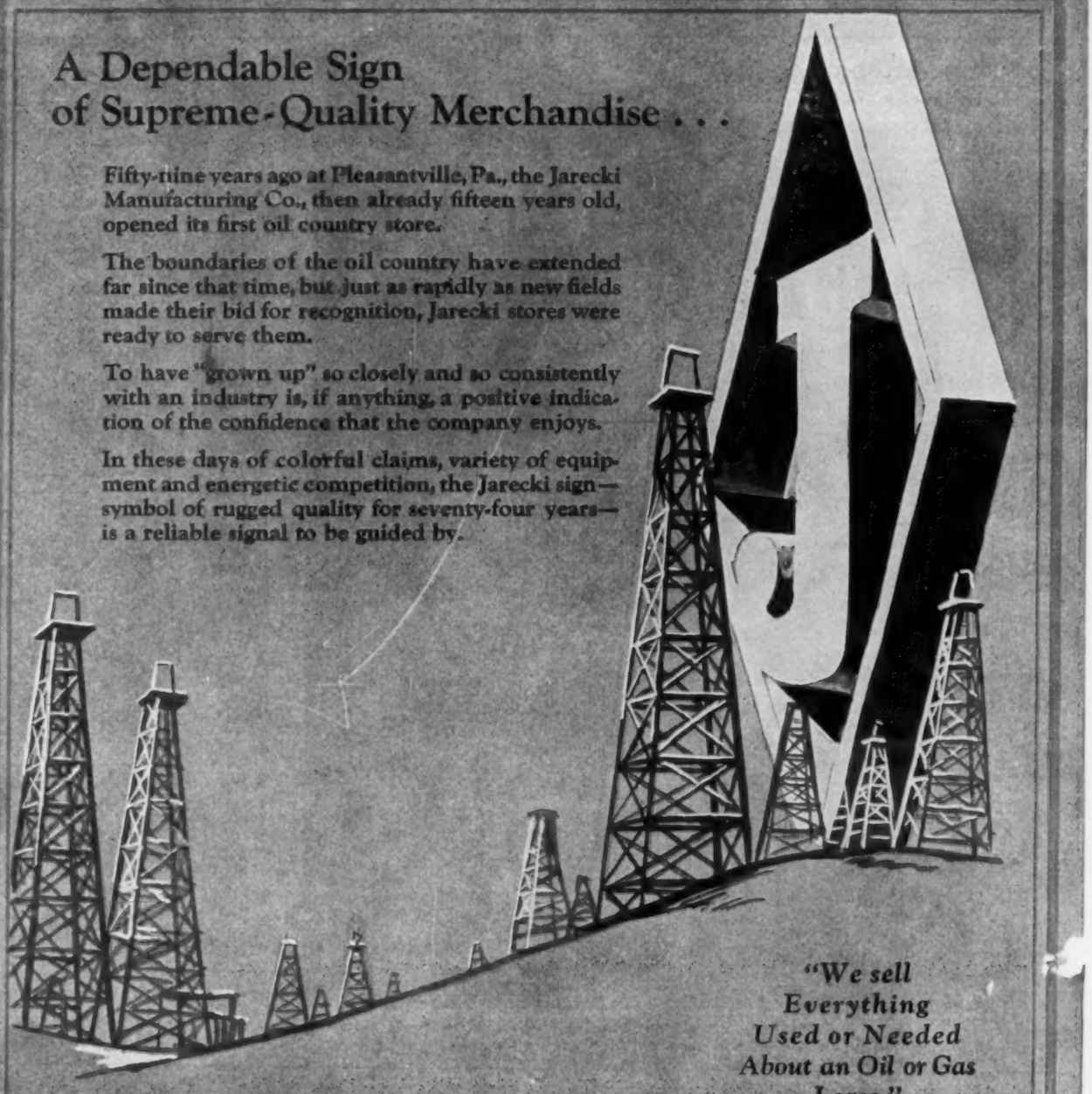
A Dependable Sign of Supreme-Quality Merchandise . . .

Fifty-nine years ago at Pleasantville, Pa., the Jarecki Manufacturing Co., then already fifteen years old, opened its first oil country store.

The boundaries of the oil country have extended far since that time, but just as rapidly as new fields made their bid for recognition, Jarecki stores were ready to serve them.

To have "grown up" so closely and so consistently with an industry is, if anything, a positive indication of the confidence that the company enjoys.

In these days of colorful claims, variety of equipment and energetic competition, the Jarecki sign—symbol of rugged quality for seventy-four years—is a reliable signal to be guided by.



"We sell Everything Used or Needed About an Oil or Gas Lease."

Jarecki

MANUFACTURING COMPANY

Home Office and Factory—Erie, Pa., U. S. A.

General Office, St. Louis, Mo.

Branch stores at all important places in the Oil Country.

District Offices { Pittsburgh, Pa.; El Dorado, Kan.; Tulsa, Okla.; Newark, Ohio; Eastland and Dallas, Texas; Lawrenceville, Ill.

CRUDE OIL PRICE QUOTATIONS

Current Postings

EASTERN STATES

	Dec. 1 1926
New York Transit	3.15
Bradford District	3.15
National Transit	3.05
Southwest	3.05
Eureka	3.00
Macksburg	3.05
Gaines	2.85
Somerset medium	2.20
Somerset light	2.35
Cabell	2.10
Ragland	.95
Corning	2.25
Keister	1.80

CENTRAL STATES

Illinois	2.10
Indiana	1.98
Lima	2.21
Plymouth	1.63
Princeton	2.10
Waterloo	1.35
Wooster	2.25

WESTERN KENTUCKY

Posted by Stoll Refining Company for crude from Allen, Warren, Franklin, Davies, Barren, Cumberland and Monroe Counties

All grades	2.35

MID-CONTINENT

Prairie Sinclair, Gulf, Texas and Magnolia

Below 28 (Magnolia only)	1.80
28 to 28.9 gravity	1.70
29 to 29.9 gravity	1.55
30 to 30.9 gravity	1.60
31 to 31.9 gravity	1.65
32 to 32.9 gravity	1.70
33 to 33.9 gravity	1.75
34 to 34.9 gravity	1.80
35 to 35.9 gravity	1.85
36 to 36.9 gravity	1.90
37 to 37.9 gravity	1.95
38 to 38.9 gravity	2.00
39 to 39.9 gravity	2.05
40 to 40.9 gravity	2.10
41 to 41.9 gravity	2.15
42 to 42.9 gravity	2.20
43 to 43.9 gravity	2.25
44 to 44.9 gravity	2.30
45 to 45.9 gravity	2.35
46 to 46.9 gravity	2.40
47 to 47.9 gravity	2.45
48 to 48.9 gravity	2.50
49 to 49.9 gravity	2.55
50 to 50.9 gravity	2.60
51 to 51.9 gravity	2.65
52 and above	2.70

NORTH AND CENTRAL TEXAS

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran, Somerset, Big Lake and Nocona crude

Humble O. & R. Co.* and Texas Co.

Below 28**	1.30
28 to 28.9 gravity	1.50
29 to 29.9 gravity	1.55
30 to 30.9 gravity	1.60
31 to 31.9 gravity	1.65
32 to 32.9 gravity	1.70
33 to 33.9 gravity	1.75
34 to 34.9 gravity	1.80
35 to 35.9 gravity	1.85
36 to 36.9 gravity	1.90
37 to 37.9 gravity	1.95
38 to 38.9 gravity	2.00
39 to 39.9 gravity	2.05
40 to 40.9 gravity	2.10
41 to 41.9 gravity	2.15
42 to 42.9 gravity	2.20
43 to 43.9 gravity	2.25
44 to 44.9 gravity	2.30
45 to 45.9 gravity	2.35
46 to 46.9 gravity	2.40
47 to 47.9 gravity	2.45
48 to 48.9 gravity	2.50
49 to 49.9 gravity	2.55
50 to 50.9 gravity	2.60
51 to 51.9 gravity	2.65
52 and above	2.70

Corsicana Heavy $1.25 per barrel, posted by Magnolia.

*Until further notice, Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes purchased by the Humble Oil and Refining Company, of a gravity lower than 28 degrees will be paid for with a corresponding decrease of five (5) cents per barrel for each lower degree of gravity.

**Humble does not post on below 28.

SOUTH TEXAS

	Dec. 1 1926
Mirando	1.25

SOMERSET

Grayburg and Pioneer

28 to 28.9	1.25
29 to 29.9	1.30
30 to 30.9	1.36
31 to 31.9	1.54
32 to 32.9	1.62
33 to 33.9	1.70
34 to 34.9	1.78
35 to 35.9	1.86
36 to 36.9	1.94
37 to 37.9	2.02
38 and up	2.10

GULF COAST

Grade "A" all companies	1.40
Grade "B"	1.40
Gulf Coast Light Oil, Below 25	1.40
25 to 25.9	1.45
26 to 26.9	1.50
27 to 27.9	1.55
28 to 28.9	1.60
29 to 29.9	1.65
30 to 30.9	1.70
31 to 31.9	1.75
32 to 32.9	1.80
33 to 33.9	1.85
34 to 34.9	1.90
35 to 35.9	1.95
36 to 36.9	2.00
37 to 37.9	2.05
38 to 38.9	2.10
39 to 39.9	2.15
40 and above	2.20

*Humble Oil and Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crude above 35 is $1.95 per barrel.

Magnolia Petroleum Company's posting stops at 31 to 31.9.

LULING

Based on Contract	1.30

(Continued on page 296)

California Crude Oil Prices at the Well

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated)

Gravity (degrees)	Signal Hill	Huntington Beach	Inglewood	Olinda-Brea Canon	Rosecrans Dominguez	Torrance	Richfield	Whittier	La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall	Midway-Sunset Elk Hills	McKittrick	Lost Hills	Salinas	Kern River	Wheeler Ridge
14-14.9	$ .85	$ .85	$ .85	$ .85	$ ..	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ ..	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75
15-15.9	.87	.87	.87	.87	..	.87	.87	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75	.75
16-16.9	.90	.90	.90	.90	..	.90	.90	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75	.75
17-17.9	.94	.94	.94	.94	..	.94	.94	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75	.75
18-18.9	.98	.98	.98	.98	..	.98	.98	.86	.86	.86	.86	..	.75	.75	.75	.75	.75	.75	.75
19-19.9	1.04	1.04	1.04	1.04	..	1.04	1.04	.87	.87	.87	.87	..	.75	.75	.75	.75	.75	.75	.75
20-20.9	1.10	1.10	1.10	1.10	..	1.10	1.10	.89	.89	.89	.90	..	..	.82	..	.82	.79	..	.78
21-21.9	1.16	1.16	1.16	1.16	..	1.16	1.16	.91	.91	.91	.98	..	..	.90	..	.90	.86	..	.81
22-22.9	1.22	1.22	1.22	1.22	..	1.22	1.22	.94	.94	.94	1.06	..	..	1.00	..	1.00	.93	..	.85
23-23.9	1.28	1.28	1.28	1.28	..	1.28	1.28	..	..	.97	1.14	..	..	1.11	..	1.11	1.00	..	.89
24-24.9	1.34	1.34	1.34	1.34	1.34	1.34	1.34	..	..	1.01	1.22	1.02	..	1.22	..	1.22	1.07	..	.93
25-25.9	1.40	1.40	1.40	1.40	1.40	1.40	1.40	..	..	1.05	1.30	1.08	..	1.33	..	1.33	1.14	..	.97
26-26.9	1.46	1.46	1.46	1.46	1.46	1.46	1.46	..	..	1.09	1.38	1.16	..	1.44	..	1.44	1.21	..	1.01
27-27.9	1.52	1.52	1.52	1.52	1.52	1.52	1.52	..	..	1.13	1.46	1.24	..	1.55	..	1.55	1.28	..	1.05
28-28.9	1.58	1.58	1.58	1.58	1.58	1.58	1.58	..	..	1.17	1.54	1.32	..	1.66	..	1.66	1.35	..	..
29-29.9	1.64	1.64	..	1.64	1.64	..	1.64	..	..	1.21	1.62	1.40	..	1.77	..	1.77	1.42	..	..
30-30.9	1.70	1.70	..	1.70	1.70	..	1.70	..	..	1.25	1.70	1.48	..	1.88	..	1.88	1.49	..	..
31-31.9	1.76	1.76	..	..	1.76	..	..	..	..	..	..	1.60	..	1.99	..	1.99	1.56	..	..
32-32.9	1.84	1.84	..	..	1.84	..	..	..	..	..	..	1.72	..	2.10	..	2.10	1.63	..	..
33-33.9	..	..	..	..	1.92	..	..	..	..	..	..	1.84	..	2.21	..	2.21	1.70	..	..
34-34.9	..	..	..	..	2.00	..	..	..	..	..	..	1.96	..	..	..	2.32	1.77	..	..
35-35.9	..	..	..	..	2.08	..	..	..	..	..	..	2.08	..	..	..	..	1.84	..	..
36-36.9	..	..	..	..	2.16	..	..	..	..	..	..	2.16	..	..	..	..	..	..	..
37-37.9	..	..	..	..	2.24	..	..	..	..	..	..	2.24	..	..	..	..	..	..	..
38-38.9	..	..	..	..	2.34	..	..	..	..	..	..	2.31	..	..	..	..	..	..	..
39-39.9	..	..	..	..	2.44	..	..	..	..	..	..	2.44	..	..	..	..	..	..	..
40-40.9	..	..	..	..	2.54	..	..	..	..	..	..	..	..	..	..	..	..	..	..
41-41.9	..	..	..	..	2.64	..	..	..	..	..	..	..	..	..	..	..	..	..	..
42-42.9	..	..	..	..	2.74	..	..	..	..	..	..	..	..	..	..	..	..	..	..

WAR on WASTE!

The SINCLAIR LAW of LUBRICATION

For every machine
of every degree
of wear there is
a scientific
SINCLAIR OIL
to suit its speed
and seal its power

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TEXAS PANHANDLE
Magnolia Petroleum Company

	Dec. 1 1926
Hutchinson, Carson and Gray counties, all grades	1.25

Humble Oil & Refining Company
Hutchinson, Carson and Wheeler counties, all grades 1.25

Gray County

28 to 28.9 gravity	1.00
29 to 29.9	1.05
30 to 30.9	1.10
31 to 31.9	1.15
32 to 32.9	1.20
33 to 33.9	1.25
34 to 34.9	1.30
35 to 35.9	1.35
36 to 36.9	1.40
37 to 37.9	1.45
38 to 38.9	1.50
39 to 39.9	1.55
40 to 40.9	1.60
41 to 41.9	1.65
42 to 42.9	1.70
43 to 43.9	1.75
44 and above	1.80

Crane-Upton-Crockett Counties

Below 26 gravity	.80
26 to 26.9	.85
27 to 27.9	.90
28 to 28.9	.95
29 to 29.9	1.00
30 to 30.9	1.05
31 to 31.9	1.10
32 to 32.9	1.15
33 to 33.9	1.20
34 to 34.9	1.25
35 to 35.9	1.30
36 and above	1.35

Crane-Upton Counties
Kay County Gas Company

Below 26 gravity	.80
26 to 26.9	.85
27 to 27.9	.90
28 to 28.9	.95
29 to 29.9	1.00
30 to 30.9	1.05
31 to 31.9	1.10
32 to 32.9	1.15
33 to 33.9	1.20
34 to 34.9	1.25
35 to 35.9	1.30
36 and above	1.35

Kay County Gas Company and Gulf Pipe Line Company
Hutchinson and Carson Counties, All grades $1.25

WYOMING-MONTANA

Byron	2.00
Ferris	1.80
Elk Basin	2.00
Grass Creek	2.00
Rock Creek	1.85
Lost Soldier	1.20
Lance Creek	2.00
Mule Creek	1.45
Notches	.65
Big Muddy	1.85
Osage	2.00
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	2.00
Lander	1.10

Salt Creek
(Midwest Refining Company)

29 to 29.9 gravity	1.55
30 to 30.9 gravity	1.60
31 to 31.9 gravity	1.65
32 to 32.9 gravity	1.70
33 to 33.9 gravity	1.75
34 to 34.9 gravity	1.80
35 to 35.9 gravity	1.85
36 to 36.9 gravity	1.90
37 to 37.9 gravity	1.95

Montana

Sunburst	1.35
Cat Creek	2.00

NEW MEXICO

Artesia	1.65
Hogback	2.05

Huntington Beach Residents Vote Town Wide Open For Oil Development

Los Angeles—With the exception of eight whole blocks and portions of eight other city blocks upon which property the business district of the city of Huntington Beach is situated, the entire site of the town will be thrown open to the oil operator December 3.

In accordance with the decision of the voters of the city as expressed in the election of November 16, the entire city, with the exception of Huntington Beach First District No. 1, may be drilled.

The city engineer anticipates a very busy day on December 3, for at that time the city will issue permits to operators to drill on the newly opened area. Many requests for permits have already been made, but none can be issued until December 3. Interested operators, however, expressing desire for drilling permits in the new area indicate that the property from 17th street, the present boundary line, on down to 10th or 12 streets, will be the scene of much activity at an early date.

The total number of premits issued at Huntington Beach during the past few months for drilling wells in the townsite area is repotred at 177. Issuing of permits, however, for this older territory has been rather slow during the last two or three weeks. Since November 8 but nine permits have been issued. California Petroleum Corporation No. 13, Standard Oil Co.'s Nos. 36 and 37, Ahlburg Gasoline Co.'s Nos. 2 and 3, Superior Oil Company No. 18, McKeon Drilling Company No. 7, Kolbush and Johnson No. 1 and Travis Drilling Company No. 1.

As the result of the voters' decision at Huntington Beach to make an oil city out of their beach town, the paramount question at present is "What to do with the city?" There is some difference of opinion among geologists and petroleum engineers relative the productivity of the entire townsite area, some claiming proof that the structure runs into the Pacific Ocean around 17th street. The early completion of Standard Oil Company's Pacific Electric wells Nos. 1 and 2, will throw much valuable light upon this matter, for these wells are drilling on the bluff between the P. E. R. R. tracks and the surf line. However, regardless of the expressed beliefs of many oil engineers concerning the likelyhood of little paying development in the new section, many residents are taking no chances and a number of homes are already being moved out to make room for the derricks which should spring up east of 17th streets in the next 30 days.

Huntington Beach contemplates the annexation of certain land to the north and east of the town which has been definitely proven barren of oil production.

CANADIAN CRUDE

	Dec. 1 1926
Oil Springs	2.68
Petrolia	2.61

*Bounty on Canadian crude is ¾ cent per gallon, or 26¼ cents per barrel

LOUISIANA-ARKANSAS
(Louisiana Oil Refining Company, Gulf Refining Company of Louisiana and The Texas Co.)
Homer, Haynesville, Caddo, El Dorado, De Soto and Chrichton.

Below 28 gravity	1.40
28 to 28.9	1.50
29 to 29.9	1.55
30 to 30.9	1.60
31 to 31.9	1.65
32 to 32.9	1.70
33 to 33.9	1.75
34 to 34.9	1.80
35 to 35.9	1.85
36 to 36.9	1.90
37 to 37.9	1.95
38 to 38.9	2.00
39 to 39.9	2.05
40 to 40.9	2.10
41 to 41.9	2.15
42 to 42.9	2.20
43 to 43.9	2.25
44 to 44.9	2.30
45 to 45.9	2.35
46 to 46.9	2.40
47 to 47.9	2.45
48 to 48.9	2.50
49 to 49.9	2.55
50 to 50.9	2.60
51 to 51.9	2.65
52 and above	2.70

Atlantic Oil Producing Company posts this same schedule on Homer, Haynesville, and West El Dorado.

Magnolia Petroleum Company has the same posting on Pine Island, Haynesville, Bull Bayou and El Dorado.

STEPHENS
Louisiana Oil Refining Company, Gulf Refining Company of Louisiana and Atlantic Oil Producing Company

Below 28	1.30
28 to 28.9	1.40
29 to 29.9	1.45
30 and above	1.50

SMACKOVER
(All companies)

27 and above	1.50
26 to 26.9	1.45
25 to 25.9	1.40
24 to 24.9	1.35
Below 24 gravity	1.10

Bellevue	1.40
Jennings	1.15
Vinton	1.50
Edgerly	1.50
Urania	1.10
Cotton Valley	1.20
Calion	1.10

M. O. Boren, zone agent and manager of production for the Gulf Production Company in the West Texas district with headquarters at Midland, has been promoted to assistant to H. A. Melat, general superintendent of production, and transferred to the Fort Worth district offices. R. W. ("Bob") Patterson, succeeds Boren as zone agent in charge of the Midland office.

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For over a decade, the Spencer Trailers have been proving their superiority in the oil fields—where exist the roughest roads in the world.

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Second—the lightest running.
Third—the most likeable because, in addition to the above features, it takes only on man to couple a Spencer to the truck.
Ask the man in the field—he knows.

Write or telephone for the address of our nearest representative.

Spencer Trailer Co.

AUGUSTA, KANSAS

Huntington Beach Comeback Upsets Production Forecast

Operators are passing up higher production to get oil from 4300-foot level; Seal Beach getting active

By GEORGE REID
Staff Representative

Los Angeles, Cal.—Two completions were listed in the Ventura Avenue field during the past week. The Shell Company of California completed its Edison No. 10 at 6596 feet flowing 2500 barrels through a 1⅞-inch bean. The oil is 27 gravity, and in addition to crude the well is producing about four million cubic feet of gas. The General Petroleum Corporation contributed its Barnard No. 7 in the same area, flowing 1250 barrels of 29 gravity oil through a ¾-inch flow nipple. The depth is 6100 feet.

The Associated Oil Company tested its. McGonigle No. 2 for two days The well flowed approximately 1000 barrels daily from 5625 feet before it was killed to deepen to the 6000-foot level. The oil at the testing level was 30 gravity and was accompanied by 650,000 cubic feet of gas. This test practically proves up the holdings of the Associated Oil Company in the Ventura Avenue field and at present marks the extreme west line of production for the area. The Associated Oil Company now has 12 drilling operations under way on its holdings and seven rigs up. Associated's Lloyd 32, drilling in hard shale at 6337, is scheduled to be the company's next completion.

General Petroleum has seven drilling operations at various stages of development and two rigs up. General Pet.s' Barnard 1-A, drilling at 6012 feet, should soon be ready for completion. Shell also has one well nearing the producing class in its Gosnell 11, drilling in hard sand at 6365 feet.

Bolsa Chica Oil Company's deepened or redrilled well, Hartman 1, is flowing steadily at 1200 barrels, and its Hartman No. 2 is drilling ahead at 3700 feet. These wells are on the extreme north side of the present producing area.

Resume of the Ventura Avenue field indicates that there are 28 wells drilling, 10 rigs up, and that the field is producing 59,000 barrels from 71 producing wells.

New Field's Yield Increases

Huntington Beach townsite field taged a comeback this week and upset the calculations of statisticians by showing an increase in daily production of some 10,000 barrels. Production estimates give the field almost 46,000 barrels yield as against approximately 36,000 barrels a week ago. Many of the townsite operators who completed their wells first between 3900 and 4000 feet are killing the flow and deepening to about 4300 feet. New operations penetrating the sand at 3900 feet are not completing at this depth, but are drilling ahead to the lower depth.

The Julian Petroleum Corporation contributed two producers this week, making its total four wells to date. Julian's Stafford No. 2 was finished at 4335 feet, flowing 1100 barrels of 23 gravity oil through a 42/64-inch bean. Tubing pressure was 290 pounds and casing pressure 790 pounds. Julian's Stein No. 1, finished at 4334 feet, produced 24 gravity oil at the same rate as the company's first well, through a ½-inch bean.

Petroleum Securities Company added another completion to its list, bringing its total wells in the area up to seven, and its townsite production up to 5700 barrels. Petroleum Securities' Montgomery No. 1 was finished at 4338 feet, flowing 1300 barrels through a ⅝-inch bean. A packer was used, and tubing pressure is reported at 250 pounds. The oil is 22.7 degress A. P. I. gravity.

Standard Oil of California reports two completions in the Huntington Beach townsite field. This company's list of producing wells in the area now stands at 31, yielding about 11,000 barrels of crude. Standard's Huntington Beach No. 6 was completed at 4348 feet, flowing 1000 barrels 24.4 gravity oil through a 19/32-inch bean. Tubing pressure 260 pounds and casing pressure 680 pounds. Standard's Huntington Beach No. 9, completed at 4330 feet, flowed only 200 barrels, and the well was washed out preparatory to running tubing to put on pump.

The Superior Oil Company added two completions, bringing its total for the field up to seven. Superior's Fee No. 2 was finished at 4351 feet. The well produced 1300 barrels through a ⅝-inch bean. Superior's Gilmore No. 1, after undergoing some half dozen cement jobs around 4000 feet was deepened to 4347 feet and successfully cemented and finished. The well flowed 850 barrels of 22 gravity oil through a ⅝-inch bean.

Among the recent spuds in the townsite pool are two new entries into the field. Ahlburg Gasoline Company spudding in its No. 2 well and is drilling at 750 feet in shale. Transport Oil Company spudded in its No. 16 and is proceeding at 650 feet through the same formation. Standard Oil of California began two new wells this week when it spudded in Huntington 17 and Huntington 21. United Oil Company followed its Buck No. 1 with Buck No. 2 this week and is drilling at 800 feet through shale. The California Petroleum Corporation began a new operation in its Brockman No. 1, drilling at 800 feet in the usual shallow formation.

Huntington Beach Drilling

There are 17 operations in the Huntington Beach townsite area in some stage of development below 4000 feet. The California Petroleum Corporation reports oil sand in its Jones No. 1 at 4045 feet, its Schwartz Community No. 1 reports the same at 4287 feet. F. N. Cole, drilling his No. 1 well, is drilling in sand at 4272 feet. George F. Getty in No. 7 reports shale at 4128 feet. Paul Getty's No. 1 well reports oil sand at 4128 feet. The Julian Petroleum Corporation is drilling in shale at 4060 feet in Bristol No. 1 with the same report on its Davies No. 1. Julian has four more operations near the 4000-foot level.

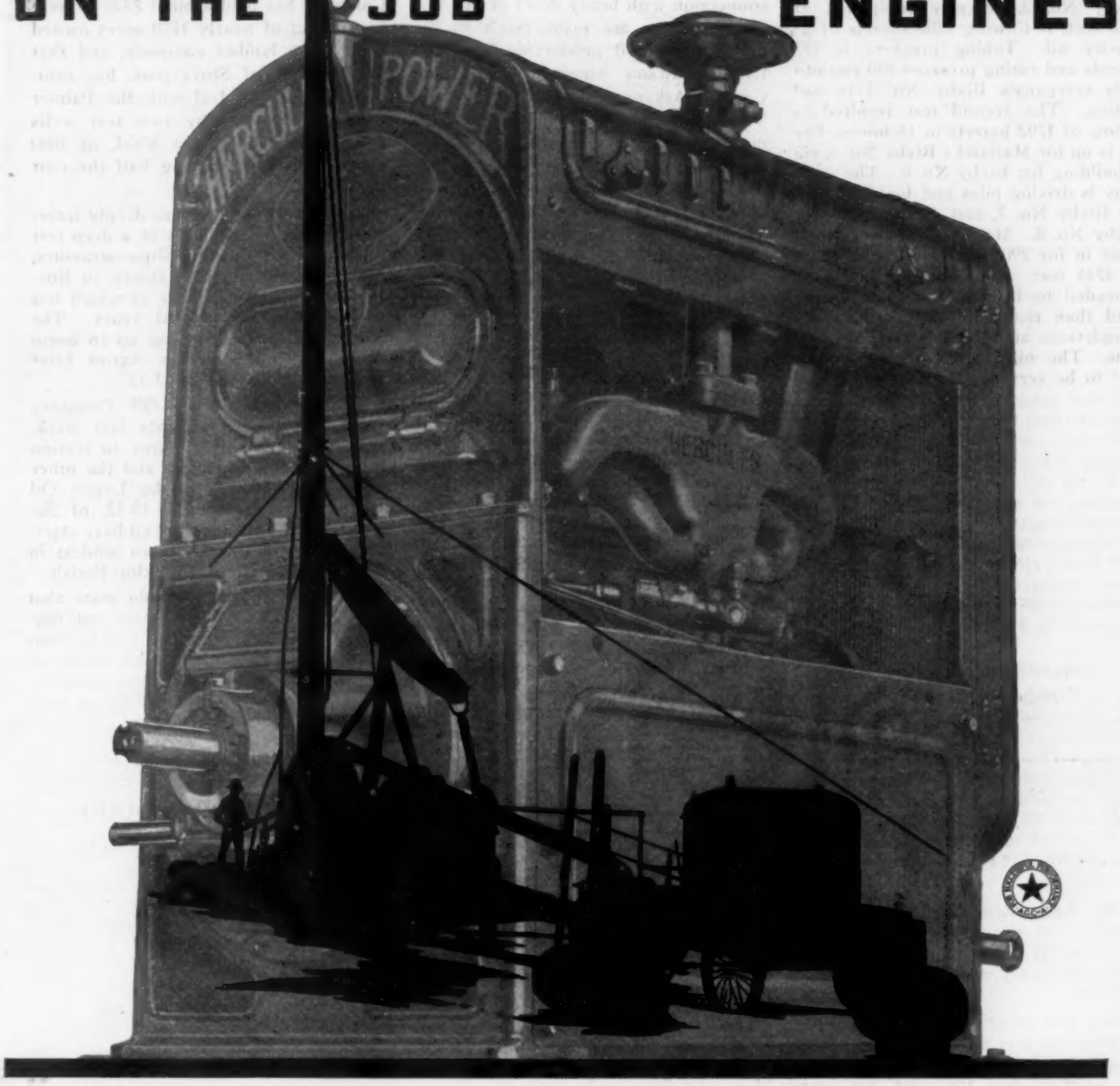
Petroleum Securities is cleaning Gibson No. 1 at 4126 feet. Its Machris No. 1 has been drilled to 4377 feet and reports oil sand from 4277 to the bottom. The Standard Oil Company has one well below 4000 feet on its B lease; B-53 reporting sand at 4176 feet. Standard's Huntington Beach No. 8 is drilling in oil sand and sand at 4335 feet. The Superior Oil Company has drilled to 4050 feet in its Fee No. 3, where sand is logged, and its Stevens No. 1 is standing cemented at 4163 feet. United Oil Company reports its Vann No. 1 at 4022 feet, standing cemented in oil sand. The Wilshire Oil Company, which surrounds its operations with secrecy, has three wells below 4000 feet. Wilshire's Huntington Beach 3 is reported at 4020 feet, its No. 4 is deepening at 4000 feet and its No. 6 is in shale at 4325 feet.

Seal Beach Is Active

Seal Beach has taken on all of the aspects of a busy oil field. Twenty operations are under way or contemplated in this newly opened area. Three wells are producing 7200 bar-

HERCULES

ON THE JOB ENGINES



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Blackwell, Okla.
Covington, Okla.
Borger, Texas

This illustration of how Hercules Engines are handling their jobs in the major oil field operations is from a photograph of the W. T. Young Drilling Engine equipped with Hercules Power Unit, Model TX (75 H.P.) on the job for the Magnolia Petroleum Co., at their Duncan, Okla. property.

It is but one of the many indications of the rapidly increasing preference for Hercules Units for heavy duty work.

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For they know

that Simplicity is Strength
and Precision is Honesty.

HERCULES ENGINES AND POWER UNITS

for every oil field operation where portable or stationary power from 20 to 100 H.P. is required.

HERCULES MOTORS CORPORATION, CANTON, OHIO, U. S. A.

Say you saw it in The OIL WEEKLY

rels of oil, one well is temporarily off production and five operations are drilling ahead. Nine new operations are indicated by new rigs, or rigging Marland Oil Company has all of the production in this field. Marland's Bixby No. 2 is still delivering its 1800 barrels into the pipe line. Marland's Bixby No. 3, recently completed at 4468 feet, is flowing 2300 barrels of 23 gravity oil. Tubing pressure is 175 pounds and casing pressure 840 pounds. This company's Bixby No. 4 is still testing. The second test resulted in a flow of 1792 barrels in 15 hours. The rig is up for Marland's Bixby No. 5, rig is building for Bixby No. 6. The company is driving piles and building road for Bixby No. 7, and driving piles for Bixby No. 8. Marland's Selover No. 1 came in for 2900 barrels from a depth of 4745 feet. This sand is generally conceded to be a different or deeper sand than that from which the early completions are drawing their production. The oil is 26.5 gravity and is said to be very similar in physical and chemical properties to the deeper production from the old Signal Hill field. The well is producing through a 7/64-inch bean, 275 pounds tubing pressure and 400 pounds casing pressure. Marland has staked a location and begun preliminary work for Selover No. 2, which is located 505 feet southwesterly from Selover No. 1. Piles are also being driven for Selover No. 3, which is located 505 feet northwesterly from Selover No. 1.

Other Operators Not Lucky

The Standard Oil of California has not yet completed its San Gabriel Improvement Company No. 1 at Seal Beach. The first cement job showed wet upon test and the well is not standing cemented or recemented. Standard's San Gabriel No. 1 is drilling at 3150 feet in sandy shale, and its San Gabriel No. 3 is reported in sandy shale at 1787 feet.

The Associated Oil Company's Seal Beach test, Bryant No. 1, is getting close to the completion depth and reports fine gray sand with oil sand at 4294 feet.

The Pan American Oil Corporation's Naples No. 1 in this locality is drilling ahead in sandy shale at 2065 feet. It is reported that the well has found some shallow showing of oil and gas.

Montana Gas Well

Great Falls, Mont.—A commercial gas well, testing more than 8,000,000 cubic feet daily, has been found at a shallow depth on the Round Lake structure in Glacier County. The Sand Point syndicate owns the Berger lease on which the well is located. The gas is rich in gasoline content. Several small towns are located near the well and the producer is alone large enough to supply these for some time. The structure will be further tested for oil.

Flow of Gas and Salt Water Discourages Oil Possibilities of Urbana-Lawson Area

Shreveport.—With the recent completion of two gas wells, each making around 25 million cubic feet per day in connection with heavy flows of salt water, operators are losing faith in the possibility of oil production from the Urbana-Lawson structure in Union County, Arkansas, east of El Dorado. The Simms Oil Company's Simmons discovery well has been shut in after a test in which it showed gas and salt water in large volumes from a depth of 2520 feet. The Marine Oil Company's Thompson well, in section 10-18-13, yields gas and salt water in about the same proportions from a depth of 2532 feet. However, there are those who attach greater importance to the presence of oil in the Southern Crude Oil Purchasing Company's Hill well in section 5-18-13, which during a recent test, pumped around 10 barrels per day of 22-gravity oil from a depth of 2525 feet. Other tests are impending in the Superior Oil Company's Cordell well, in section 5-18-13, and in the Calgo Oil Company's Primm 1, in section 9-18-17.

Interest in the possibilities of the area lying northeast of Plain Dealing, in Bossier Parish, Louisiana, has been revived by reports of a threatened blow-out in Woodley & Collins's Robinson wildcat, in section 22-23-12, in which a promising sand was found below a cap rock logged at 3085 feet. The well has been brought under control, and six-inch casing will be set to afford an immediate test. Acreage in the vicinity is very closely held, as favorable showings have been found in this territory from time to time during the last ten years. A well drilled by the Dallas Oil Company flowed several thousand barrels of oil during July, 1917, but operators have lost many thousands of dollars in the search for oil around Plain Dealing. A recent test made at 2717 feet in the Robinson well yielded a showing of oil and gas, accompanied by salt water.

Late reports from the Urania field in La Salle Parish, credit George Wetherbee, of Shreveport, with the completion of a 500-barrel well on his Urania Lumber Company lease in the southeast of the southwest of section 2-9n-1e, of the Rochelle extension. About ten days ago Mrs. Joyce Richardson brought in an equally good well on the Hatfield lease, in section 7-10n-2e. Wells of this calibre are becoming unusual at Urania.

The Gulf Refining Company is drilling at 2460 feet in its West Virginia No. 1, located in section 17-17n-5e, southeast of the Monroe gas field, in Ouachita Parish, and in the general vicinity of England Planting Company discovery well, in which gas production was found a short time ago at a depth of 2340 feet. The major companies are making a heavy play in this new territory. It is said that the Gulf Company has paid around $345 an acre for a tract of nearly 1700 acres owned by a large lumber company, and that W. E. Hail, of Shreveport, has completed a $50,000 deal with the Palmer Corporation, whereby two test wells are to be drilled on a block of 4000 acres, each party paying half the cost thereof.

Louisiana operators are deeply interested in the possibilities of a deep test to be drilled on the Sligo structure, near Bellevue and Elm Grove, in Bossier Parish, the existence of which has been known for several years. The Sligo Syndicate is rigging up to begin drilling at once on the Aaron Jeter property, in section 24-17-12.

The Arkansas Fuel Oil Company started two new wildcats last week. One is on the Gilbert farm, in section 9-12-7e, Franklin Parish, and the other is on land owned by the Logan Oil Company, in section 23-10-12, of Sabine Parish. Hall & Harrell have started drilling in their Duncan wildcat in section 20-13-7e, of Franklin Parish.

Reports from El Dorado state that A. M. and Ben Sutton have set 6⅝-inch casing at 2577 feet to test a promising showing of oil in their deep test being drilled on public school property in section 28-15-16, of the Louann field, Ouachita County, Arkansas.

Blue Ridge Extension Well Blows 3000 Barrels

Houston.—Navarro Oil Company widened the productive area of Blue Ridge field, Fort Bend County, about 500 feet to the southwest November 27, with the completion of its Robinson No. 1 for 3000 barrels of 23.5 Baume gravity, pipe line oil. Total depth is 3662 feet with 30 feet of pay. Five days after completion the well was holding up to slightly more than 2500 barrels.

Robinson No. 1 is the Navarro's first well at Blue Ridge, and the company holds lease on roughly 400 acres on the southwest side of the dome, which it expects to develop on the strength of this discovery. Drilling of the second well is planned immediately, location of the No. 2 to be in a southwesterly direction.

While the well is only about 500 feet from former production, it lies approximately 7500 feet northwest of the new play to the south of the dome, where the Humphreys Corporation, Gulf and J. S. Abercrombie are developing a section opened early this year.

AVERAGE DAILY PRODUCTION FOR U.S.

United States Daily Average Production by Weeks

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

Week Ending	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Total
March	454,762	103,300	260,262	92,712	48,787	165,312	97,625	102,325	604,500	1,929,562
April	467,175	101,825	263,612	88,812	50,562	169,824	100,875	106,675	600.000	1,947,387
May	463,750	105,690	277,700	94,550	58,150	175,430	105,700	112,300	602,720	1,995,990
June	**456,450**	**107,637**	**302,187**	**89,912**	**60,412**	**167,887**	**106,250**	**112,925**	**606,925**	**2,013,187**
July	456,920	110,320	336,600	114,760	57,460	161,870	104,700	108,520	613,940	2,062,470
August	465,137	111,600	381,560	161,237	56,787	157,375	108,350	110,737	609,725	2,162,662
September	465,387	113,037	402,212	175,512	56,575	154,037	110,125	105,825	598,100	2,180,862
October	497,120	114,720	439,490	170,350	58,200	149,810	109,500	99,060	611,600	2,259,850
November 6	557,500	114,900	464,600	177,000	57,500	146,200	110,500	94,650	632,500	2,356,350
November 13	546,600	114,000	472,350	173,600	56,900	144,400	111,000	91,800	633,200	2,343,850
November 20	552,400	115,200	482,900	170,550	55,450	144,050	111,500	92,700	645,700	2,370,450
November 27	548,400	117,600	484,100	185,550	56,450	141,750	111,500	92,000	653,900	2,391,250
Increase over past week	.....	2,400	1,200	15,000	1,000	.....	.....	.....	8,200	20,800
Decrease over past week	4,000	.....	.....	.....	.....	2,300	.....	700	.....	.....

Texas

NORTH

	Nov. 27	Nov. 20
Burkburnett	14,300	14,250
Electra	16,950	16,950
Iowa Park-K-M-A	4,500	4,450
Wilbarger	15,550	15,300
Hutchinson County	148,300	153,100
Panhandle Misc.	14,000	14,500
Montague and Cooke Counties	11,850	11,600
Archer County	34,800	34,600
Others	1,300	1,300
Totals	261,550	266,050

EAST CENTRAL

Mexia	11,300	11,250
Currie	800	800
Richland	1,400	1,400
Corsicana-Powell	24,150	24,200
Wortham	6,200	6,400
Nigger Creek	11,450	11,250
Totals	55,300	55,300

WEST CENTRAL

Stephens County	10,950	10,950
Eastland County	5,850	5,600
Desdemona	1,700	1,700
Young County	8,500	8,500
Palo Pinto County	450	450
Callahan County	3,500	3,450
Regan County	30,250	30,150
Shackelford County	14,400	14,300
Brown County	16,600	16,600
Throckmorton County	1,850	....
Mitchell and Scurry Counties	4,000	4,000
Howard County	1,250	....
Jones County	550	....
Coleman County	500	500
Crane-Upton Counties	23,500	20,900
Others	1,100	2,050
Totals	124,950	119,150

SOUTHWEST TEXAS

Luling	19,650	19,750
Laredo District	16,700	16,600
Somerset	1,950	2,000
Lytton Springs	3,150	3,250
Piedras Pintas	300	250
Others	550	550
Totals	42,300	42,400
Texas (outside Gulf Coast)	484,100	482,900

GULF COAST

Goose Creek	7,750	7,500
Hull	20,200	20,800
Saratoga	1,250	1,200
Blue Ridge	3,100	1,550
Damon Mound	1,100	1,100
Batson	1,650	1,700
West Columbia	9,650	9,600
Humble	4,400	4,400
Pierce Junction	6,950	7,100
Sour Lake	5,700	6,350
Spindle Top	90,550	79,550
Orange County	7,300	7,050
Edgerly	750	750
Evangeline	1,100	1,100
Vinton	6,050	6,050
Lockport	4,100	4,050
South Liberty	4,850	5,000
Big Creek	4,350	1,350
Boling	2,150	2,100
Others	2,600	2,200
Totals	185,550	170,550

Oklahoma

North Braman	29,100	27,100
South Braman	5,550	5,500
Blackwell	3,750	3,750
Hubbard	2,650	2,600
Thomas	2,250	2,050
Tonkawa	31,250	33,400
Garber	23,350	23,700
Burbank	44,250	44,900
Osage (outside Burbank	34,400	34,400
Watchorn	3,400	3,750
Cushing	21,400	21,400
Yale Jennings	13,200	13,300
Davenport	5,050	5,350
Bristow Slick	26,850	26,900
North Okmulgee	17,400	17,400
Lyons-Deaner	3,900	3,900
Stroud	1,950	1,950
Cromwell	14,650	19,450
Papoose	9,250	9,400
Wewoka	24,300	24,600
Duncan District	7,100	7,100
Graham	8,900	8,850
Fox	1,950	1,950
Healdton	15,000	15,000
Seminole	111,050	112,950
Hewitt	10,950	11,000
Scholem Alechem	9,050	9,000
Others	66,500	66,200
Totals	548,400	552,400

California

Seal Beach	8,200	5,400
Santa Fe Springs	45,500	45,500
Long Beach	97,000	96,000
Huntington Beach	83,000	77,500
Torrance	26,500	26,500
Dominguez	20,000	20,000
Rosecrans	14,500	14,500
Inglewood	40,000	40,000
Midway-Sunset	94,000	94,000
Ventura Avenue	56,200	57,300
Others	169,000	169,000
Totals	653,900	645,700

Kansas

Florence-Covert	1,900	1,900
Peabody-Elbing	4.100	4,100
Eldorado-Towanda	13,550	13,600
Augusta-Fox Bush	4,950	4,950
Rainbow Bend	3,300	3,250
Russell	4,300	4,250
Greenwood County	44,900	45,150
Churchill	10,600	8,100
Others	30,000	29,900
Totals	117,600	115,200

North Louisiana

	Nov. 27	Nov. 20
Homer	5,450	5,450
Haynesville	8,750	8,750
Caddo Light	10,150	10,450
Caddo Heavy	5,000	3,450
De Soto-Red River	4,100	4,100
Elm Grove	600	500
Bellevue	1,700	1,750
Cotton Valley	6,900	6,950
Urania	13,800	14,050
Totals	56,450	55,450

Arkansas

El Dorado	6,650	6,600
Smackover Light	13,300	13,200
Smackover Heavy	111,750	114,200
Stephens	1,550	1,500
Nevada	1,900	1,900
Lisbon	6,600	6,650
Totals	141,750	144,050

Mountain States

WYOMING

Salt Creek	42,200	43,000
Grass Creek	3,100	3,100
Elk Basin	800	800
Big Muddy	3,100	3,150
Lost Soldier	5,150	5,600
Rock River	2,800	2,600
Teapot Dome	700	800
Lance Creek	750	1,000
Others	2,050	2,150
Totals	60,650	62,200

MONTANA

Cat Creek	2,550	2,600
Sunburst	14,000	14,000
Others	200	250
Totals	16,750	16,850

COLORADO

Moffats (Craig)	3,100	2,700
Fort Collins	3,800	3,400
Florence	450	550
Others	700	750
Totals	8,050	7,400

NEW MEXICO

Table Mesa	450	500
Artesia	3,000	3,000
Hogback	700	750
Rattlesnake	2,400	2,000
Totals	6,550	6,250
Total Mountain States	92,000	92,700

Eastern States

(Including Illinois, Indiana, Ohio, W. Virginia, Pennsylvania, Kentucky and New York	111,500	111,500

PRODUCTION SUMMARY

East of Rockies		1,632,050
United States	2,391,250	2,370,450

QUALITY & QUAN

Photo by J. L. Rivkin

H. P. Taubman, President of the Taubman Supply Corporation, has become known throughout the entire Petroleum Industry as one whose advice on matters pertaining to used pipe can be thoroughly relied on and it is largely through his efforts that the Taubman Supply Corporation has built up its large volume of sales through Quality, Quantity and Service.

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LY CORPORATION

Say you saw it in The OIL WEEKLY

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

Summarized Review of Field Results

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Arkansas	9	14	6	11	1	1	2	2	122	690
California	25	20	23	18	..	..	2	2	24,009	11,090
Colorado	..	1	..	..	..	..	..	1	....	.....
Indiana	12	4	10	3	1	..	1	1	58	120
Illinois	8	6	7	5	..	..	1	1	369	148
Kansas	33	25	20	15	..	1	13	9	2,095	2,232
Kentucky	..	21	..	16	..	2	..	3	....	510
Louisiana	32	20	21	10	1	..	10	10	2,544	803
Michigan	9	..	7	..	..	..	2	..	185	.....
Mississippi	..	..	..	..	..	..	..	..	....	.....
Montana	8	10	8	10	..	..	..	..	605	1,095
New York	11	12	11	12	..	..	..	..	22	31
New Mexico	..	..	..	..	..	..	..	..	....	.....
Ohio	44	69	34	21	3	34	7	14	797	641
Oklahoma	102	95	58	50	9	8	35	37	36,104	27,908
Pennsylvania	70	72	63	62	4	5	3	5	180	494
Tennessee	1	..	1	..	..	..	..	..	100	.....
Texas	172	195	117	131	1	11	54	53	63,609	42,824
West Virginia	59	37	28	5	21	31	10	1	842	73
Wyoming	9	2	8	1	1	..	..	1	7,785	50
Totals	604	603	422	370	42	93	140	140	139,426	88,709

Mountain States

WYOMING

Company, Well and Location	Initial Production Bbls.	Depth
Salt Creek—		
Mountain & Gulf Oil Co.'s No. 22, SE¼ 12-40-79	100	2525
Midwest Oil Co.'s No. 3A, NW¼ 2-33-79	110	1560
No. 22L, NE¼ 35-40-79	4800	2520
No. 16L, SW¼ 25-40-79	1100	2530
Wyoming Associated Oil Corp.'s No. 4L, SE¼ 35-40-79	1500	2550
No. 16A, NE¼ 26-40-79	100	1520
Continental Oil Co.'s No. 22, SW¼ 32-30-78	50	1750
Big Muddy—		
Continental Oil Co.'s No. 40H, 9-32-76	25	3185
Baxter Basin—		
Marland Oil Co.-Producers & Refiners Corp.'s No. 1, 11-19-104	†	2920

MONTANA

Company, Well and Location	Initial Production Bbls.	Depth
Kevin-Sunburst—		
Ohio Oil Co.'s No. 4, NE¼ 10-35-2	125	1630
Adams Oil Co.'s No. 2, NW¼ 33-35-1	100	1470
Royal Canadian Oil Co.'s No. 1, NW¼ 27-35-2	35	1800
Barmac Oil Co.'s No. 5, NW¼ 30-35-1	100	1475
Pan-Canadian Oil Co.'s No. 2, SW¼ 35-35-2	60	1475
O'Neil Bros.' No. 3 SE¼ 28-35-2	75	1475
"56" Oil Co.'s No. 21 NE¼ 32-35-1	70	1465
Crossfield Oil Co.'s No. 4 SE¼ 23-35-2	40	1560

Texas

ARCHER COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Burleson-Chenault et al's Preacher et al 1	*	1655
Camp Oil & Gas Co. and Muse's Wilson 1	*	1496
Consolidated Oil Co.'s Kinder 2	*	1534
Continental Oil Co.'s Abercrombie-Taylor 1-B	*	1384
Gates & O'Donohoe's Pace 1	10	1226
Humble Oil & Ref. Co.'s Hamilton 20	*	1287
A. W. Johnson et al's Garvey 1	*	838
Magnolia Pet. Co.'s A. J. Lowe 27	25	1286
Murchison-Fain Oil Co.'s Parkey 1	*	1504
Petroleum Producers Co.'s Turbeville 7	†	1499
Schermerhorn Oil Co.'s Prideaux 2, Blk. 25	*	683

BROWN COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
The Texas Co.'s Beardon 1-B	*	1220
Amerada Pet. Corp.'s J. H. Fry 4	300	1320
J. H. Fry 5	505	1318
J. H. Fry 7	400	1309
J. H. Fry 8	150	1325
Danciger O. & R. Co. & Rose's, Haynes 1	280	1186
Gibson Oil Corp.'s Shore 2	35	1230
Henshaw et al's Lowe 4	85	1309
Humble O. & R. Co.'s Armstrong 3	540	1199
Hodnett 9	240	1229
Wooldridge 6	100	1265
Kone Production Co.'s Foster 9	50	1210
Lloyd et al's Wood 1	*	565
Magnolia Pet. Co.'s M. E. Fry 6	40	1319
Mid-West Exploration Co.'s Suttles 17	25	1168
Moore et al's Brinson 1	80	1314
Nelson et al's Sneed 1	*	1030
Pandem Oil Corp.'s Westerman 7	220	1275
Price-Daniels et al's Andrews 1	130	1324
Savings & Scroggins et al's Mattock 1	*	1525
The Texas Co.'s Eddington 8	10	1295
Tidal Oil Co.'s Hodnett 3	380	1205
West & H-Y Oil Co.'s Newton 21	10	1234
Williamson et al's Wooldridge 3	150	1252

Kevin-Sunburst Active

Great Falls, Mont.—Several small completions were recorded in the Kevin-Sunburst field during the past week. No sensational producers were completed, however. Taking advantage of the unusually mild winter weather, operators are making all possible headway. Drilling wells are constantly increasing. The completions recorded did not offset the decline in production in the field. Several wells are being drilled in the heart of the field. The edge wells were nearest completion when the increased demand for crude came and are consequently being finished first.

BURKBURNETT

Company, Well and Location	Initial Production Bbls.	Depth
Bridwell-Heydrick Oil Co.'s Ward-Todd 13	100	1908
W. J. Grisham et al's Martin 1	*	1350
McClure et al's Ward-Todd 1	*	1960

CALLAHAN COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Brown & Co.'s Long 5	10	1411
Pardee et al's Rushing 1	*	1405
T. B. Slick et al's McDonough 4	10	1405

COLEMAN COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Root et al's O'Hair 1	*	3340
World Oil Co.'s Witowski 1	*	2765

COOKE COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
John W. Hooser's J. A. Dennis 11	65	1290
Lynch-Stahl & Burress' Mueller 1	*	2128

EASTLAND COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Arab Gasoline Corp.'s Beard 1	*	1854
Gulf Prod. Co.'s Allen-Evans 1	*	2016
Humble O. & R. Co.'s Dill 1	*	3175
Lewis-Moore et al's Connellee 1	5	1247
Parsons et al's Robinson 1	13	3390
Parton & Meyer's Fox 1	*	1523

ELECTRA

Company, Well and Location	Initial Production Bbls.	Depth
J. B. Barnes et al's Ancell 1	50	1733
Dale Oil Corp.'s Burnett 17	4	1386
Dixon-Cook & Reeder's Burnett 8	10	1609
J. E. Jones et al's Jennings 5	*	1610
Stump & Co.'s Waggoner 2	*	1615
The Texas Co.'s W. T. Waggoner 308	*	2254

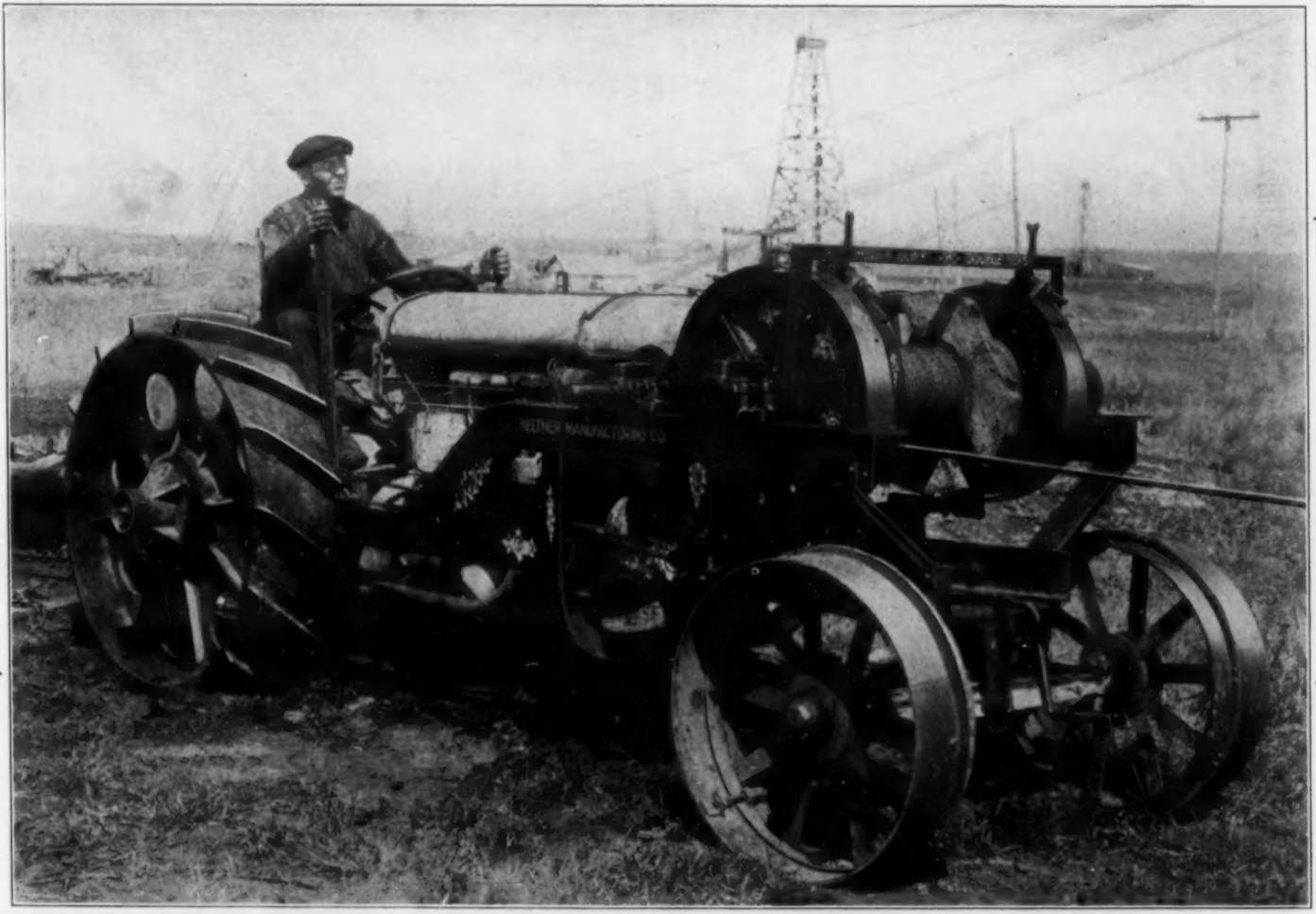
GRAY COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Gulf Prod. Co.'s R. S. McConnell 1	110	3235
Prairie-Shamrock Pet. Co. et al's Worley-Reynolds 4	250	3064
Pure Oil Co.'s Benton 3, shot	480	3124
The Texas Co.'s C. W. Saunders 1, shot	*	3295

HUTCHINSON COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Devonian Oil Co.'s Johnson 4	100	2928
Gulf Prod. Co.'s J. A. Whittenburg 7-A, shot	140	2895
Gulf-Cline & Panhandle Ref. Co.'s Dial 36, shot	560	2940
Dial 37, shot	275	2958
Marland Oil Co.'s W. S. Christian 1, shot	185	2905
W. S. Christian 2, shot	120	2935
S. D. & W. W. McIlroy's Smith 5, shot	500	3037
Marland Oil Co.'s River Bed 1	*	3275
Smith 6, shot	1000	3027

Six Speeds Forward



Two Speeds Reverse

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Wichita KANSAS Eldorado

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Company, Well and Location	Initial Production Bbls.	Depth
Phillips Pet. Co.'s J. A. Whittenburg-Elra 6, shot	400	2850
J. A. Whittenburg-Whit 1, shot	20	2812
J. A. Whittenburg-Whit 4, shot	25	2759
Phillips Pet. Co. and Pulaski Oil Co.'s Smith 6	100	2903
Skelly Oil Co.'s Johnson-Cunningham 4, shot	40	2969
Johnson (sec 20) 12	400	2985
J. A. Whittenburg 4, shot	100	2911
Skiatex Pet. Co.'s W. L. Kingsland 7, shot	275	2850
Triangle Oil Co.'s Smith 1-A, shot	500	2771
JACK COUNTY		
Buttram Pet. Corp.'s Preston 4-C	100	2003
K-M-A AND IOWA PARK		
Cotton & Gohill's Wilkerson 1	*	1313
Continental Oil Co.'s Burnside 2	*	688
Panhandle Refining Co.'s Riley-Griffin 3	30	1797
Pat & Tom White's Mitchell 6-B	90	1303
MITCHELL COUNTY		
Magnolia Pet. Co.'s Frances Adams 2	45	3030
MONTAGUE COUNTY		
Continental Oil Co.'s Bouldin 1-A	*	2099
Howard 3-B	35	1374
Maddox 1-B	55	875
Rowland 20	50	1127
Salmon 5	25	895
Farlan Oil Co.'s Maddox 6-A	70	908
Gulf Prod. Co.'s J. W. Rowland 2	70	1127
McMan Oil & Gas Co.'s Howard 3	25	1390
The Texas Co.'s N. J. Howard 1-C	45	1155
Oldham 30	50	1098
SHACKELFORD COUNTY		
Carter et al's Huskey 2	10	446
Chronic et al's Goodwin 1	*	1800
Gibson-Johnson et al's Ackers 1	*	2005
Hyde & James et al's Moberly 2	700	1153
Moberly 3	150	1155
Mid-Kansas O. & G. Co.'s Goodwin 1	40	1578
Roeser-Pendleton, Inc. & Marland's W. I. Cook 5-A (Sec. 60)	400	1265
W. I. Cook 9-A, (Sec. 60)	1400	1240
W. I. Cook 12-A, (Sec. 60)	700	1239
W. I. Cook 12-B, (Sec. 60)	75	1365
W. I. Cook 14-B, (Sec. 60)	200	1256
W. I. Cook 1-C, (Sec. 60)	500	1149
W. I. Cook 3-C, (Sec. 60)	¶8-80	1137
W. I. Cook 4-C, (Sec. 60)	¶9-50	1132
W. I. Cook 2-E, (Sec. 60)	40	1159
Skelly Oil Co.'s Matthews 2	*	1460
Smith et al's Vickers 1	*	2287
SOUTH VERNON DISTRICT		
Humble O. & R. Co.'s W. T. Waggoner 2-N, dd	100	2431
W. T. Waggoner 3-N, dd	75	2426
Phillips Pet. Co.'s W. T. Waggoner 13-D	20	1889
W. T. Waggoner 14-D	45	1994
W. T. Waggoner 5-A-L	90	2390
THROCKMORTON COUNTY		
Humble Oil & Ref. Co.'s M. K. Graham 1	800	1725
UPTON COUNTY		
Dixie Oil Co.'s A. S. Burleson 11	865	2025
Marland Oil Co.'s T. E. Shirley 1	2000	2098
Sanger Bros. 16	55	2353
B. H. Estep 8	*	2346
Rio Grande Oil Co.'s B. H. Estep 1	200	2395
Roxana Pet. Corp.'s E. S. Hughes 3	3000	2161
Texas Pacific Coal & Oil Co.'s Shirk 3	45	2210
YOUNG COUNTY		
Panhandle Ref. Co.'s Farmer 1	40	804
Self 1	*	815
Riggs-Leigh et al's Stewart 1	*	550
Roamer Oil Co. et al's Neeley 1	*	1164
Schermerhorn Oil Co.'s Prideaux 1	*	605
Prideaux 3	*	528
Tidal Oil Co. et al's Benson 5	50	927
GULF COAST		
Spindletop—		
Gulf Production Co.'s No. 7 Oakwood Realty Co.	*	3200
No. 9 Jas. F. Weed "A", wo	7000	4100
No. 7 Daisy Roche et al	8000	3900
No. 3 Jeannette Mann, wo	2000	3200
Atlantic Oil Producing Co.'s No. 12 McLean, wo	3000	4125
Unity Oil Co.'s No. 91 McFadden	500	2150
W. B. Flynn's No. 2 Gladys	*	1375
Yount-Lee Oil Co.'s No. 13 Gladys City	5300	2900
No. 13 Fee	4200	3912
Saratoga—		
Rio Bravo Oil Co.'s No. 46 Cotton	*	1450
Batson—		
Gulf. Prod. Co.'s No. 1 W. W. Cruse	*	3300
Ada Belle Oil Co.'s No. 111 Texas Co.	*	1100
East Batson Oil Co.'s No. 14 Stateland	250	1200
Sour Lake—		
Lake View Oil Co.'s No. 52 Hardin County	10	1000
Humphrey Oil Corp.'s No. 1 Bashara "C"	250	4050
Hull—		
Gulf Production Co.'s No. 18 David Hannah Fee	*	4875
No. 77 Phoenix Dev. Co.	*	2500
No. 76 Phoenix Dev. Co.	1000	3400
Republica Production Co.'s No. 41 Dolbear, wo	125	280
Houston Production Co.'s No. 8 Taylor, wo	100	3300
The Texas Co.'s No. 4 Merchant, wo	500	3175
Blue Ridge—		
Eunice and Carpenter No. 1 Bullock and Nash	210	3625
Gulf Prod. Co.'s No. 9 Luscher	2000	3800
Navarro Oil Co.'s No. 1 Robinson	3000	3652
Orange—		
Humble Oil and Refining Co.'s No. 7 Winfree, wo	2500	3900
No. 25 Chesson "A", wo	*	3500
Texhoma Oil Co.'s No. 6 Chesson, wo	150	3675
SOUTH LOUISIANA		
Vinton—		
Marrs McLean No. 1 G. & N. G.	200	1750
Evangeline—		
The Texas Company No. 2 Latreille "B"	200	1950
Lockport—		
Vacuum-Gulf Co.'s No. 4 Lock-Moore	*	6415
Starks District—		
Standard Oil Co. of Louisiana's No. 4 Industrial Lumber Co.	*	1575
SOUTHWEST TEXAS		
Duval County—		
O'Hern and Seacord No. 1 Benavides	35	....
Jim Hogg County—		
Alsworth Brothers' No. 2 Palacious	100	1014

Thinking of Building a Natural Gasoline Plant?

If you are, Write to THE REFINER AND NATURAL GASOLINE MANUFACTURER which deals with that phase of the oil industry—for a sample copy.

The Refiner and Natural Gasoline Manufacturer will also be able to put you in touch with companies building such plants.

P. O. BOX 1307, HOUSTON, TEXAS

Montana Section Meeting At Great Falls

Great Falls, Mont.—The Montana chapter of the Rocky Mountain Oil & Gas Association will meet in Great Falls December 1 to 3. The meeting was originally planned as a local affair, but with the announcement that the main organization would not meet in Casper this year, it has been taken as the principal convention for both the parent and Montana chapter. The program outlined is very extensive and includes papers by the leading oil men of the Rocky Mountains. A. W. Peake, general superintendent of the Midwest Refining Company, will address the meeting on the electrification of the Salt Creek field. This talk will be of special interest, as the possibility of electrifying the Kevin-Sunburst field is very good.

R. P. Brewer, Tulsa banker, will read methods used in handling oil banking. John D. Clark, assistant to Colonel Stewart, chairman of the board of directors of the Standard Oil Company of Indiana, will address the convention. He formerly was head of the legal department of the Midwest Refining Company, with headquarters at Denver. He will talk chiefly of refining methods.

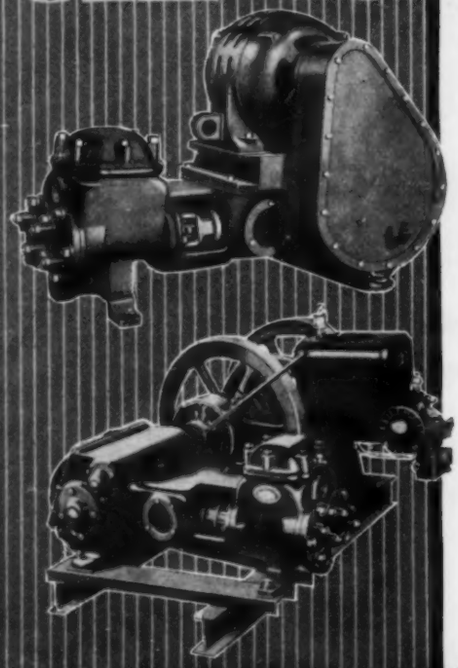
The program also includes papers and addresses by leading geologists of the region.

Railroad experts have been asked to address the meeting. The question of freight rates has long been a troublesome one for Montana operators.

E. B. Coolidge is president of the Montana chapter and will address the convention at its opening.

FAIRBANKS-MORSE

SELF-LUBRICATING PUMPS



Self-lubricating power pumps, a recent development, have made an instant appeal to industrial men, through their pronounced savings of time, labor and money, and their longer life.

The Fairbanks-Morse pumping unit shown above requires oiling only at long intervals, when the filling of its large oil chamber insures a plentiful supply of oil to every part that requires lubrication. It has no grease cups, oil cups or oil holes. No danger of overlooking important bearings.

The motor mounted unit, both sides of which are illustrated, is entirely self-lubricating, including motor and chain. The lower illustration at left shows the same pump arranged for direct drive by a Fairbanks-Morse 6 H. P. "Z" Engine.

"If Continental Sells It There Is No Better"

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Export Office: 2 Rector St., New York
London Office: 316-317 Dashwood House, Old Broad St., London E. C. 2

CONTINENTAL

Louisiana

Caddo Parish—

Company, Well and Location	Initial Production Bbls.	Depth
Gulf Ref. Co.'s Ferry Lake 259, 16-20-16	45	2287
Wemple 1, 14-20-15	350	2217
Wemple 2, 14-20-15	240	2216
Howard et al's Pyron 1, 15-21-15	1	1683
Morris Drilling Co.'s Pala 2, 1-20-16	30	2137
Ramsey et al's Powell 10, 36-22-16	10	1050
Powell 11, 36-22-16	7	1050
Standish Oil Co.'s Allen 9, 23-22-15	20	1060
Superior Oil Co.'s Youree 5, 26-20-15	55	2289
The Texas Co.'s Caddo Levee Board B-1, 22-21-16	*	985
Russell 12, 3-20-16	1	2346
Tholl Oil Co.'s Allday 1, 13-21-15	*	1745
Thomson et al's Muslow 5, 31-21-15	5	1670
Totals, 13 wells	764	

Cotton Valley Field—

Magnolia Pet. Co.'s Turner A-3, 21-21-10	125	2543

Monroe Gas Field, Ouachita Parish—

Hatcher & Evan's Fee 5, 17-19-4e	¶8	2205

Urania Field, LaSalle Parish—

C. A. Hudson's Urania 1, 7-10-2e	125	1521
Joyce Richardson et al's Hatfield 1, 7-10-2e	500	1544
Rowe et al's Hatfield 1, 7-10-2e	40	1541
George W. Wetherbee's Urania A-6, 2-9-1e	450	1500
Urania B-2, 3-9-1e	40	1505
O. F. Whittaker's Hardtner 1, 26-10-1e	150	1551
Wingfield et al's Urania 2, 2-9-1e	75	1496
Wooten et al's King 2, 36-10-1e	*	1538
Total, 8 wells	1380	

Arkansas

Irma Field, Nevada County—

Wright Oil & Ref. Co.'s Groves 2, 12-14-21	50	1159

Smackover Field, Union County—

Harrell Trust's Flenniken 7, 5-16-15	¶2-50	2554
Ramage et al's Ezell 1, 24-15-16	*	3004
Total, 2 wells	¶2-50	

Lisbon Field, Union County—

Humble Oil & Ref. Co.'s Sydnor 4, 21-17-16	15	2169
Imeprial Oil & Gas Co.'s Ramsey A-4, 21-17-16	12	2192
Lion Oil & Ref. Co.'s Werner 1, 21-17-16	30	2174
Werner 4, 21-17-16	15	2202
Total, 4 wells	72	

EAST TEXAS COMPLETIONS

Shelby County—

J. C. McCormick's Ashberry 3, C. S. Mitchell H/R sur	*	2569

Kansas

Butler County—

Empire Gas & Fuel, Blankenship 4, C NW SE NW 23-26-7e	40	2775
Tidal Oil Co. Dickinson 36, NEc NW NW 21-26-8e	30	2537
Mid-Kansas O. & G. Co. Blakeman 2, NEc SW SW 3-28-6e	200	3078
Kismet et al Johnson 1, NWc NW SW 21-27-7e	*	....

Chautauqua County—

The Prairie O. & G. Co. Denman & Ewers 8, NWc NE NW SE 8-34-11	*	....
Foster, Harper & Craver McNown 2, C NW SE 31-32-10e	*	1927

Cowley County—

Roxana Pet. Corp. Sloan 1, NWc 28-30-3e	50	1833
Shawver et al Baird 2, NWc NE SE 17-34-3e	75	3363
Cosden et al Clover 1, NEc SE 16-31-7	*	3160
Marland Oil Co. & Slick Heskett 3, SWc NW 19-33-2	*	2560

Elk County—

Theta Oil Co. Webb 4, SEc SW 23-31-10	15	1618
Ohio Fuel Oil Co. Burge 2, C SW NW 13-30-8	*	1972

Company, Well and Location	Initial Production Bbls.	Depth

Greenwood County—

Syndicate Oil Co., Bradfield 5, NWc SE SE 2-22-10	125	2109
Theta Oil Co. Browning 17, C N L SW NW NE 17-22-10	45	2290
Rodes et al Browning 7, C. S. L. SW NE SE 18-22-10	15	2395
Empire Gas & Fuel Schwab 1, SWc SE SE 25-22-12	385	2187
The Texas Company McGilvray 2, SEc NE 17-23-11	130	1978
McGinnis et al Mock 4, SEc NE NE 36-24-10	200	1895
Empire Gas & Fuel Co. Dugan 1, NWc NE NE 18-24-11	100	1864
Theta Oil Co. Rockhill 2, SWc NW NW 31-24-11	150	1926
Snyder et al Barnard 1, SWc SE SE 30-22-12	*	....
Basom et al Piatt 2, NEc NW 13-23-10	*	....
Sullivan et al Hoover 1, NWc SE 23-23-11	*	....
Mid-Kansas Oil & Gas Co. Ladd 8, Acct 4 C N L NE 30-25-9	*	2900

Lyon County—

Ritchey and Moore, Brudfield 1, NWc SW NE 25-21-10	250	2589
Theta Oil Co. Jones 6, SWc NW 30-21-10	125	2312

Russell County—

Valerious Oil & Gas Co. Munsell 3, SWc NW SW 17-12-15	90	3070

Woodson County—

Kansas Oil & Gas Co. Gilbert 1, NEc NW NE 34-23-17	10	1191

Ellsworth County—

C. J. Wrightman Herman 1, C SW 3-16-8	*	4445

Kingman County—

Ozark Drilling Co. Richards 1, NEc SW 4-30-6	*	4252

Sumner County—

Roxana Pet. Corp. Codfelter 1, SEc SW NW 22-31-2	*	3820

Oklahoma

Carter County—

Humble Oil & Ref. Co. Jordan 6, SWc SE SW 18-1-3	1270	2855
Lusk 7, NWc SE NE 33-1-3	15	3258
Lusk 6, SEc SW NE 33-1-3	125	2634
Magnolia Pet. Co. Fish 8, NEc SE SW 34-1-3	165	2930
Adams 1, NWc NE SE 3-2-3	245	2342
Adams 2, NWc SE SE 3-2-3	272	2663
Adams 3, NEc SE 3-2-3	120	2676
Skelly Oil Co. Smith 4, SWc NE SE 3-2-3	250	2690
Magnolia Pet. Co. Lohman 5, NWc SW NW 23-2-3	41	2955
Williams 8, NEc SW NE 23-2-3	100	2647
May Cox 3, NWc NE SE 16-2-2	120	1322
Amerada Pet. Corp. Baptiste 28, SWc NE SW SE 20-5-1	25	1490
Skelly Oil Co. Smith 3, SEc NW SE 3-2-3	*	1052
Magnolia Co. Pierce 1 SWc SE 15-2-2	*	3493

Creek County—

Gled Oil Co. Ross 6 NWc SE SW 13-19-8	50	2280
The Texas Co. Weaver 4, SWc NW SE 13-19-8	20	2230
Magnolia Pet. Co. Jones 10, NWc NE SW 5-18-7	8	2687
Jones 2, C NE SE 35-18-7	¶6	3040
Gypsy Oil Co. Richards 18, SWc SE NE NW 1-18-11	1820	2077
Riverland Oil Co. Land 5, NEc SE SW NW 1-18-11	40	2128
Mid-Continent Pet. Co. Strip 3, NWc NE SE NW 1-18-11	1898	2083
Crandall, Mutta et al Miller 1, C S L NE SE 32-18-11	30	1550
Dixie Drilling Co. Bowlegs 2, SEc 1-17-9	25	1802
W. S. Turman Pemberton 1, NEc NW NW 8-17-10	530	3044
Cumberland Pet Co. et al Tiger 1, SEc 13-17-10	40	1854
Skelly Oil Co. Yellowhead 2, NEc SW SW 32-17-10	13	3125
Shaffer Oil & Ref. Co. Wacoche 7, C E L NE NE 17-17-11	¶25	2065
Magnolia Pet. Co. Derrisaw 6, C S L SW SE 32-18-7	*	2847

Company, Well and Location	Initial Production Bbls.	Depth
Bartlett Development Co. Boyd 1, SEc SW 28-19-9	*	2872
Olean Pet. Co. Atkins 1, NWc SW 33-19-9	*	2932
Redgraves et al Snow 1, NWc SW NW SE 15-18-11	*	2475
Independent Oil & Gas Co. Yellowhead 1, NWc 4-16-10	*	3165
Wood Oil Co. Lampkins 1, NWc NE 36-14-9	*	3705

Garfield County—

Sinclair Oil & Gas Co. Walker 64, NW SE SE NE 13-22-4	300	3701
Walker 63, SW SW NE 13-22-4	170	3702
Roxana Pet. Corp. Schroeder 29, SE SW SE SW 18-22-3	386	4294
Sinclair Oil & Gas Co. Hartley 39, SWc NW NW 18-22-3	400	3665
Hartley 51 SWc NW 13-22-3	100	4328
Hartley 53, SEc SW NW NW 18-22-3	325	3648
Slich et al Detwiller 1, C NW SE 22-21-3	*	5540

Grady County—

Hamon & Cox Smith 1, NWc SW NW 16-3-5	500	1828
Carter Oil Co. Woods 1, SEc NE NE 17-3-5	87	1809
Critchlow et al Adair 2, SEc SW NW 27-3-5	250	1854
Carter Oil Co. Wham 3, SWc NE 34-3-5	35	1430
Zacharry 1, NWc SW NW 35-3-5	42	1435

Kay County—

Comar Oil Co. Priboth 8-W, SEc NE NW 21-29-1	3183	3371
The Texas Co. Day 4, SEc NE 20-29-1	340	2765
Marland Oil Co. Gaylor 1, SWc NE NE SW 19-27-1	¶5	3483
Wentz Oil Corp. Mahoney 12, NEc NW SE 28-25-1	67	4310
Tom Palmer et al Barclay 1, NEc NW 28-26-1	*	4627

Okfuskee County—

Riverland Oil Co. Barnett 1, SEc SW SW 19-11-11	¶33	2942
Atlantic Oil Prod. Co. Jackson 3 C W L NW SW 35-11-11	50	2526
Eagle Pitcher Lead Co. Birdcreek 3, NWc NE 7-10-12	¶3	3106
Derby Pet. Co. Callahan 2, NEc NW SW 14-12-9	*	3765
Blakely et al Harjo 1, NWc NE 23-12-10	*	3050

Okmulgee County—

W. B. Pine Corbray 3, NEc 9-15-14	270	1542
McCullouch Oil Co. Alexander 5, C SE SW 16-15-14	200	2368
The Texas Co. Bruner 10, C E L SE SE 16-15-14	15	2343
Clover et al Fee 8, NEc NW NW 3-15-11	*	2954
Clarion Oil Co. Wright 8, C SW SW 22-14-14	*	1876

Osage County—

Kenner Oil & Gas Co. No. 23, NW NE NE 15-29-10	10	1075
The Texas Co. No. 13 NW SE SE 21-26-6	126	2976
I. T. I. Oil Co. No. 1, NEc SW 31-25-9	¶5	1925
Barnsdall Oil Corp. et al No. 4 NW NE NW 2-21-8	60	2523
Sand Springs Home Oil Co. No. 98, SWc NE SE 24-21-9	¶15	2147
No. 7, SE NW NE 5-20-11	45	1773
Plymouth Pet. Co. No. 3, SWc NW SW 31-25-12	*	1760

Pawnee County—

Devonian Oil Co. Dobson 3, NWc SE NW 35-22-6	25	2678
Williams Drilling Co. Barrier 1, NWc SE 15-23-5	*	....
Meyers et al Bell 1, NEc NW 35-23-5	*	....

Payne County—

Magnolia Pet. Co. Thomas 1, SEc SW 31-18-4	16	3660

Pottawatomie County—

Gypsy Oil Co. School Land 1, NEc NW NE 16-9-5	2667	4281

Seminole County—

Continental Oil Co. Pierce 10, C E L SW SE 33-11-8	50	1851
Pierce 4, NW SW SE 33-11-8	625	4155
Carter Oil Co. Joe Carter 2, SEc SW SW 24-9-6	5160	4199

For the executive who is interested in operating the Oil Lease with the least waste, the following Bulletins, had for the asking, will prove beneficial.

No. 198—Marion Steel Bull Wheels.
No. 200—Irish Pulling Machine.
No. 202—Marion Peerless Reversible Clutch.
No. 203—Marion Gas Engines.
No. 205—Marion Band Wheel Powers.
No. 214—Marion Hi-Test Sucker Rods.
No. 217—Marionhill Pitmans.
No. 219—Marion Standard Rig Irons.
No. 228—Marion Metal Buildings.
No. 231—Marion Steel Derricks.
No. 232—Marion Miscellaneous Oil Well Equipment.
No. 234—Marion No. 80 "Little Giant" Power.

STANDARDIZE *and* ECONOMIZE

War on waste in the Oil Industry is as important as eliminating waste elsewhere. Standardized Rig Irons mean economy and satisfaction for the Oil Producer. The MARION LINE Rig Irons are standardized.

Write for Bulletin No. 219

Marion Machine, Foundry & Supply Co.,

Marion, Indiana

Say you saw it in The OIL WEEKLY

Company, Well and Location	Initial Production Bbls.	Depth
Gypsy Oil Co. Fixico 2, SEc NW NE 26-9-6	102	4220
I. T. I. Oil Co. Bowlegs 2, NEc NW SE 26-9-6	699	4130
Tidal Oil Co. Fixico 4, SWc SE NW 26-9-6	5130	4150
T. B. Slick Franks 1, NWc NE 35-9-6	7320	4033
Empire Gas & Fuel Co. Litka 1, SWc 3-7-6	87	3663
The Prairie Oil & Gas Co. Gross 1, NEc NW NW 25-9-6	100	3993
Sory and Swartz Bruner 1, NWc NE 19-10-6	*	....
Carter Oil Co. Noko 1, NWc SW NW 31-10-7	*	3010
Gypsy Oil Co., Stepney 1, NWc SW 23-9-7	*	....
M. F. Breens et al Burden 1, NW SW SW 23-8-6	*	....
Amerada Pet. Co. Grayson 3, NWc SE SE 32-8-8	*	4169
Grayson 4, NEc SE SE 32-8-8	*	4208
Tulsa County—		
Sand Springs Home Oil Co. Unallotted 2, NEc SE NE 23-19-11	40	2242
The Texas Co. McKay 1, NWc SE 7-16-14	¶15½	1434
Savoy Oil Co. Jones 3, C E L SE NW 7-16-14	*	2234
Wagoner County—		
W. C. Newman Atkins 1, C E L L NE SE 13-17-6	¶4½	1111
Love County—		
Magnolia Pet. Co. Brown 1, SWc NW SW 7-6-2	*	3070
McIntosh County—		
H. W. Lampton et al Tiger 1, NWc SE 10-12-14	*	2933
Muskogee County—		
Cory and Anders Morris 1, SWc NW NE NW 29-15-15	*	2630
Paraffine Oil Co. Bango 1, C N L NW NE 20-15-17	*	2272
Noble County—		
Mid-Continent Pet. Corp. Brumfield 15, NEc SW NW 22-23-2	*	2023
Oklahoma County—		
J. V. Bailey No. 1, SWc NE 7-14-3	*	....
Bailey Schellenberg 1, NEc SW NW 3-12-4	*	....
Pittsburg County—		
Western Natural Gas Co. Forbus Long 1, C W L E½ NW SE 36-9-16	*	2550
Texas County—		
Reiter-Foster Corp. Kugle 1, C NE 10-2n-11	*	3502

California

Huntington Beach Townsite—		
George F. Getty's No. 5, wo	1600	3285
Julian Pet. Corp.'s Lambert 1, wo	1100	4359
E. J. Miley's Pacific Electric 2, wo	2755	4433
P. E. 6	1256	4332
Petroleum Securties' Drew Fee 1	700	4066
Lambert 1	850	4348
Fred Roberts Oil Co.'s McCoy 1	2160	4300
Standard Oil Co.'s Huntington 2	1776	4268
Huntington 6	1018	4348
Huntington 7	1093	4347
Huntington 10	996	4300
Long Beach-Los Cerritos—		
San Martinez Oil Co.'s Booth 3	650	5215
United Oil Co.'s Haas 8	2750	5329
Rideout Heights—		
Lang-Wall Oil Synd.'s well	*	1895
Brea-Richfield—		
Standard Oil Co.'s Kraemer 2-22, wo	376	4653
Union Oil Co.'s Towell 2	300	4600
Seal Beach—		
Marland Oil Co.'s Selover 1	2849	....
Ventura Avenue—		
Associated Oil Co.'s McGonigle 2	1120	5588
Sunset—		
Standard Oil Co.'s Rass	120	5264
Transport Oil Co.'s Bush 2, wo	250	3912
Midway—		
Gore Oil Co.'s C11	30	1030
Kern Front—		
General Pet. Corp.'s Young 24	150	2130
George F. Getty's Lenhart	105	2189

Eastern States

PENNSYLVANIA

Bradford County—		
South Bend Oil Co., Taylor 38	2	....
Bingham-Satterfield 115	2	....
Bingham-Satterfield 116	3	....
Enterprise 1	4	....
Bingham 1	2	....
Middaugh 50	2	....
Smith 127	2	....
Smith 128	2	....
No. 2 Taylor, tract 3	3	....
Transit 68	2	....
Jones 216	2	....
Rew-Hodge 52	2	....
Hazlewood Oil Co., Lot 23, tract 27	2	....
Hazlewood 50	4	....
Fitzgibbons & Wilson, Bingham 380, tract 82	3	....
Abrams & Co., Bingham 2	3	....
S. H. Elder & Co., Vincent Heirs 19	2	....
Elder 17	4	....
Maxwell Bros., Franchot 10	3	....
F. M. Johnston & Son, Franchot 27	2	....
Holmes Oil Co., Hedlund 2	2	....
C. J. Mitchell, Borden 1	4	....
Loop & Bell, Hoffman 1	3	....
Barry Bros., Bingham 1	4	....
F. D. Gallup & Co., Rew 5	3	....
Rew 6	3	....
Melvin, Towne & Co., Lovell 3	4	....
Mix Creek Oil Co., Mix 1	4	....
Storms & Coast, Hanes 3	4	....
L. M. Lilly & Co., Middaugh 4	3	....
Middaugh 5	4	....
Harris Oil Co., Bingham 188, tract 34	5	....
M. B. V. Ward & Co., Potter 2	4	....
Miller & Co., Campbell 2	3	....
H. P. McKalip & Co., Bingham 6	4	....
Hilltop Oil Co., Hilltop 36	4	....
George W. Smith Estate, Smith 2	3	....
Korner Bros., Gormley 2	3	....
Paul Evans & Co., Bingham 6	3	....
Womer & Co., Gilfillan 1	3	....
Wilson & Patton, Womer 1	3	....
Zook & Sloan, Keating 13	3	....
Keating 14	3	....
C. E. Potter, Irvine 1	3	....
Wilson & Co., Murphy 1	3	....
Simon Bros., Corwin 1	3	....
Rice & Co., Weston 1	3	....
Greene County—		
Carnegie Nat. Gas Co., Harvey Lemley 2	2	....
Little Six Oil & Gas Co., John Estell 1	¶2¼	....
Greensboro Gas Co., Glen Morris 1	*	....
John Bundy & Co., Dick Moniger 1	¶2	....
Allegheny County—		
Altoona Oil & Gas Co., Mohr 4	¶¼	....
Harbison & Co., Louis Fisher 1	¶¼	....
Venango County—		
George Stubler, Stubler Heirs 6	2	....
Porter, Hovis & Co., Welton 4	2	....
Bell, Moyar & Co., Schock 7	*	....
Mong & Clark, Clark 3	2	....
Walten, Smith & Co., Porter 37	2	....
Midland Oil Corp., McNellie 23	2	....
Butler County—		
Edward McKinney, McKinney 2	3	....
M. W. Graham, Campbell 8	3	....
Gregory & Crawford, Anderson 5	3	....
Clarion County—		
Vensel, Vasey & Co., Buck 5	2	....
Crawford & Hess, Schottenburg 2	*	....
Engle Oil & Gas Co., Engle 1	2	....
G. P. Myers, Myers 23	2	....
Center-Middle Field—		
Bloss & Bayless, Fuller 4	2	....
Quinn, Haley & Co., Kehr 26	2	....
D. H. Jones, Yeagle 1	2	....
Harrison Bros., Morris 10	2	....

NEW YORK

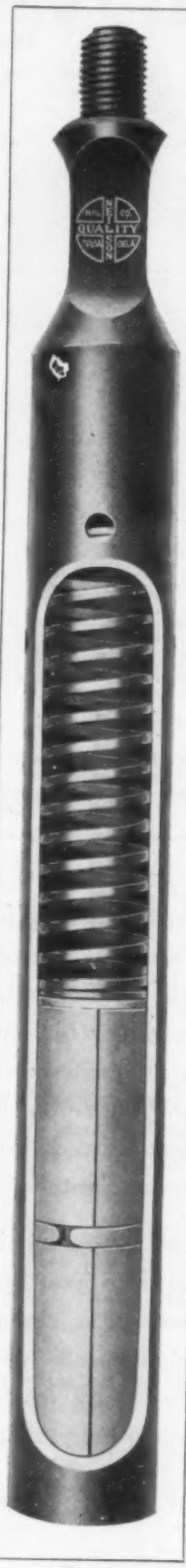
Allegany County—		
Breckenridge & Empire Ltd., Empire 1	2	....
W. E. McCurdy & Co., Birtcil 1	2	....
Rehler Bros., Rehler 1	2	....
C. H. Lavans Estate & Co., Laven 1	2	....
J. W. Birtcil & Co., Birtcil 1	2	....
Isaac Willetts Estate, Willetts 1	2	....
B. A. Vossler & Co., Burdick 1	2	....
H. F. Carls & Son., Carls 1	2	....
Derby & Black, F. D. & R. 1	2	....
G. W. Hooker & Co,, Hooker 1	2	....
J. W. Johnson & Co., Johnson 1	2	....

WEST VIRGINIA

Ritchie County—		
John Starcher & Co., Mettis Heirs 3	220	....
J. B. Elder & Co., J. W. Shark 1	*	....
Carnegie aNt. Gas Co., Martha Batson 2	*	....
McDonald & Deem, R. Swisher 1	*	....
Hope Nat. Gas Co., Gorrell 2	¶1	....
N. W. Gorrell 1	¶1	....
Hope Construction & Ref. Co., Harvey Dobbins 1	¶1	....
Pittsburgh & West Va. Gas Co., Buke Zinn 1	¶1	....
Clay County—		
South Penn Oil Co., O. D. Stockley 42	10	....
O. D. Stockley 43	25	....
A. B. Hicks 2	20	....
R. P. Parker 4	10	....
Ohio Fuel Oil Co., J. B. Casto 14	30	....
Virginian Gasoline & Oil Co., Brown-Swan 3	15	....
Lockhart 5	10	....
Grose 1	¶¼	....
Boone County—		
Owens Bottle Machine Co., Cassingham & Co. 1	¶¼	....
J. H. Ester 1	¶¼	....
Roxy Linville 1	¶¼	....
U. S. Anderson 1	¶¼	....
The Pure Oil Co., P. C. Boone 2	¶¼	....
Federal Coal Co. 7	¶¼	....
Lafayette & Co. 22	¶¼	....
Pleasants County—		
Everson Oil Co., E. N. Cook 36	50	....
J. G. Smith & Co., R. H. Wilson 2	¶1	....
J. H. Wagner & Co., S B Wrick 2	¶¼	....
Mingo County—		
Old Colony Oil Co, Logan Cannel Coal 20	3	....
Logan Cannel Coal 21	175	....
Marion County—		
Carnegie Natural Gas Co., Baxter School lot 1	¶2½	....
O. M. Haught 1	¶3	....
Wirt County—		
Roberts Bros. Rathbone Tract 149	*	....
Federal Oil & Gas Co., Robert Pell & Co. 35	¶¼	....
Calhoun County—		
Godfrey L. Cabot, W. B. Bennett 1	*	....
Chemical Oil Co., Miller Heirs 3	¶¼	....
Wood County—		
J. W. Earle & Co., H. B. Frazier 2	2	....
Wayne County—		
Chartiers Oil Co., Julius Barton 2	2	....
Cabell County—		
Farr & Figley, C. A. Weatherholt 1	*	3670
Lincoln County—		
Meabon & Hoffman, Charles Gillenwater 6	4	....
Roane County—		
United Fuel Gas Co., D. C. Taylor Heirs 1	¶2½	....
Harrison County—		
Patterson Fork Oil Co., R. T. Lowndes 17	¶¼	....
Tyler County—		
Hope Natural Gas Co., Cornell Heirs 1	*	....

KENTUCKY

Owensboro Field—		
J. C. Ellis, J. R. Weller 1	130	735
Leeper Oil Co., J. A. Greer 3	*	600
D. J. White, O. T. Burdette 1	*	520
Buette Dredging Co., A. Evans 5	*	610
Barren County—		
Consolidated Oil & Gas Co., H. W. Duff 59	20	....
H. W. Duff 60	20	....
F. C. Moore, Travis 17	8	....
Star Oil & Gas Co., Richardson 18	10	....
Richardson 19	10	....
Allen County—		
C. L. Rich, S. & K. Thaxton 7	2	455
Riley Hunt, R. Hunt 13	3	318
Lee More, L. Moore No. 2, tract 7	1	400
Warren County—		
Cupler & Theesen D. C. Butler 2	2	485
Petroleum Exploration, T. Bailey 5	3	1045
Floyd-Knott Counties—		
Ivyton Oil & as Co., William Prater 1	25	....
Eastern Carbon Black Co., W. Leslie 5	¶2½	....
Johnson-Magoffin Counties—		
Bed Rock Pet. Co., J. H. Arnett 24	20	....
Willson Oil Co., Lee Owens 6	5	....
Lawrence-Johnson Counties—		
Swiss Oil Corp., P. P. Holbrook 49	7	....



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SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
Washington County—		
Peoples Banking & Trust Co., L. S. Wharff 5	6	500
C. H. Ames & Co., James Dow 1	5	....
J. C. Carner & Co., Evan Williams 3	*	....
Kerr Bros. & Co., C. S. Plummer 6	*	....
L. E. Clymer & Co., W. L. Schramm 7	*	500
Morgan County—		
The Pure Oil Co., William Eppley 13	10	....
H. C. Nicewanner 7	3	....
G. J. Frye 8	4	....
Swingle Oil & Gas Co., Grant Bailey 2	¶1¼	....
Belmont County—		
Natural Gas Co. of W. Va., E. Ferguson & Co. 6	60	....
J. F. Baumgardner 4	2	....
Frank Strange & Co., George Rehm 1	20	....
Jefferson County—		
S. S. Boyce & Co., W. L. Groves & Co. 10	10	....

CENTRAL OHIO

Company, Well and Location	Initial Production Bbls.	Depth
Licking County—		
Hope Construction & Ref. Co., Edward Hickey 2	70	....
S. Uffner 2	55	....
Jake Vandenbark 14	28	....
C. E. Saltzgaber & Co., W. L. Motherspaw 9	20	....
The Pure Oil Co., Noah Coomes 2	40	....
Holmes County—		
The Pure Oil Co., Warren Close 5	110	....
Burtner, Moran & Co., George Shuler 1	90	....
East Ohio Gas Co., George L. Strouse 1	*	3000
Hocking County—		
A. H. Squire & Co., Cobb-Bradley 12	40	....
Griffin Producing Co., Marlow Oil 6	5	....
Raccoon Oil Co., F. M. & E. J. Ludlow 114	15	....
Vinton County—		
Townsend-Elkins Oil Co., James Queen 2	2	....
Gordon Oil Co., Wesley Walburn 4	¶¾	....
Meigs County—		
Roush Bros., Wilber D. Roush 2	1	....
Coal Hollow Oil & Gas Co., Burdette 3	¶¾	....
Athens County—		
Clark & Co., Lash C. Athens 2	5	....
Knox County—		
Upham Gas Co., James Colopy Heirs 1	*	....
Coshocton County—		
Ohio Fuel Supply Co., C. H. McGee 1	*	....

NORTHWESTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
Ottawa County—		
The Ohio Oil Co., A. F. Alyn 6	14	1366
Burman Oil Co., Gust Magsig 1	7	1289
Babione Oil Co., Henry Neeb 6	5	1364
Vogtsberger Bros., Vogtsberger & Lines 7	*	1367
Wood County—		
Oko Oil & Gas Co., Louisa DeVerna 6	15	1291
C. A. Browning, S. J. Simmons 32	10	1209
D. A. Henderson, Henderson 1	5	1294
Van Wert County—		
Chilcote Oil & Gas Co., John Chilcote 1	10	1221
John Chilcote 2	40	1218
Shelby County—		
Wittmer Property Trustee, Joseph Seigel 6	30	1342
Hancock County—		
Felcher & Kirk, H. B. Kurtz 1	25	1463
Mercer County—		
A. W. Neely & Co., Adam Fecher 7	20	1185
Seneca County—		
Onsel-Hanrahan Oil Co., M. E. Steinbrook 5	15	1302

INDIANA

Company, Well and Location	Initial Production Bbls.	Depth
Adams County—		
McKelvey & Randall, Joe Peel 1	58	....
W. Bollenbacher 2	20	....
W. Bollenbacher 3	25	....
R. O. Grimm, Scott McDaneil 1	20	....
Homer Pintus & Co., William Kerr 1	15	....
Alvin C. Spindler, Spindler 2	20	....
Schulte & Co., S. Young 1	20	....
F. C. Foreman 1	¶½	....
Pike County—		
Miller, Davis & Co., J. S. Wilson 3	50	1434
Consolidated Oil Co., J. McDaniels 11	25	987
Molten & Noble, E. Martin 2	*	1275
Gibson County—		
Huber & Mann, M. Hollingsworth 1	100	1424

ILLINOIS

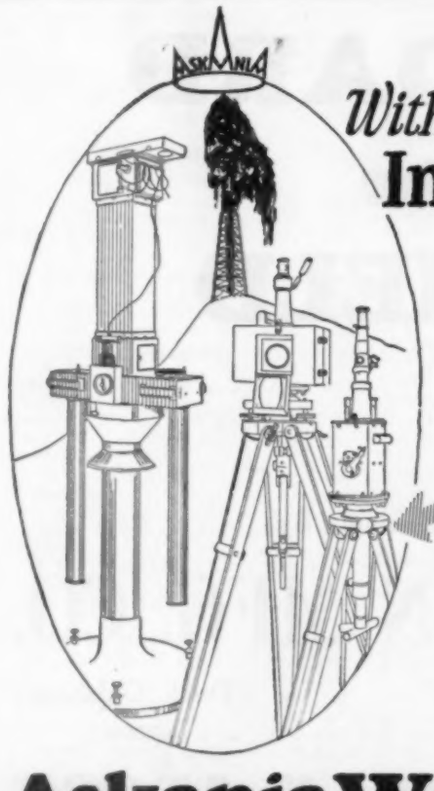
Company, Well and Location	Initial Production Bbls.	Depth
Wabash County—		
Cisil Heirs Oil Co., Cisil Heirs 4	150	....
Mt. Carmel Oil Co., F. M. Leek 7	100	....
Clark County—		
Trenton Rock Oil & Gas Co., McClelland 5	60	1594
W. C. McBride, Inc., Nettie Baker 11	50	1597
Crawford County—		
Phipps & Co., Nelson Hope 5	2	956
Selby-Cisler Producing Co., Cawood Heirs 10	2	985
Lawrence County—		
Snowden-McSweeney Co., O'Donnell 43	5	1378
Marion County—		
H. C. Higgins, Higgins 1	*	1757

MICHIGAN

Company, Well and Location	Initial Production Bbls.	Depth
Saginaw County—		
Saginaw Prospecting Co., Peikert 1	55	1838
E. G. Rust 1	*	2000
S. M. Bacon & Co., O. Bouchard 1	*	2430
The Ohio Oil Co., Mershon-Eddy-Parker tract 2	25	1829
Bliss Petroleum Co., Charles Ulrich 5	30	1843
Cooper-Newberry Oil Co., J. Walslein 1	25	1834
Wayco Producing Co., Mrs. Braun 1	25	1821
Richard Cross & Co., Hanson 1	20	1838
F. D. Barton & Co., North Niagara Street 1	5	1848

TENNESSEE

Company, Well and Location	Initial Production Bbls.	Depth
Clay County—		
Clark Hill Oil Co., Thurman 3	100	500



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P. G. LEONARD

West Tulsa, Oklahoma

WILDCATS FROM ALL SECTIONS

Rocky Mountain Wildcats

WYOMING

Fairway Oil Co.'s No. 1, Crazy Woman, 7-47-82, ur 1025 ft. Texas Production Co.'s No. 1, Quealy dome, 13-17-77, dr 3215 ft. Criterion Oil Co.'s No. 1, Douglas, 5-31-70, cementing, td 395 ft. Winter Bros.' No. 1, Oil Mountain, 17-33-94, dr 625 ft. Matthew Foreman Interests' No. 1, Carbon County, 16-28-18, dr 1733 ft. Producers & Refiners Corp.'s No. 5, Big Sand Draw, 10-32-95, dr 3400 ft; No. 19, Ferris, 25-26-87, dr 1430 ft; No. 2, Garland, 24-56-89, fsh 2640 ft; No. 1, Baxter Basin, 11-19-104, comp as gas well, td 2920 ft; No. 1, Medicine Bow, 25-21-79, dr 120 ft; No. 1, Murphy dome, 8-43-91, dr 2625 ft; No. 2, Gray Basin, 22-3-24, dr 5390 ft; No. 9, Ferris, 11-26-90, dr 1180 ft; No. 1, Parco, 21-21-86, dr 1675 ft; No. 1, Eight Mile Lake, 35-20-88, will plug back from 4000 ft to make gas well. Union Oil Co. of California's No. 1G, Fremont County, 27-1-1, dr 1110 ft; No. 14, Fremont County, 15-6-2, dr 1460 ft; No. 1C, Fremont County, NE¼ 15-5-1, dr 2042 ft; No. 1A, Black Mountain, 28-43-91, dr 2482 ft; No. 1A, Black Mountain, 34-43-91, dr 1827 ft. Midwest Refining Co.'s No. 6X, Dutton Creek, 1-18-70, dr 5050 ft; No. 1, La Barge, 21-27-113, dr 984 ft; No. 2, Elk Basin, 31-58-99, dr 348 ft. Texas Production Co.'s No. 1, Big Sand Draw, 15-32-95, sdtr 3075 ft; No. 5, Maverick Springs, 26-6-101, fsh 1525 ft; No. 5, Lost Soldier, 3-27-90, dr 2250 ft. Carter Oil Co.'s No. 1, Nowood, 5-48-90, dr 1330 ft; No. 1, Horse Creek, 35-17-70, running 6¼ casing td 3035 ft. Prairie Oil & Gas Co.'s No. 65, Lost Soldier, 11-26-90, dr 1710 ft; No. 2, Buffalo Basin, 17-27-95, sd 2865 ft; No. 1, Gooseberry, 32-47-100, dr 3725 ft. Ohio Oil Co.'s No. 3, Hidden dome, 31-48-90, dr 2790 ft; No. 2, Byron, 33-57-79, dr 1900 ft.

COLORADO

Gypsy Oil Co.'s No. 1, Garfield County, 5-8-102, co 3550 ft. Rosie Oil Co.'s No. 2, Florence, 8-20-69, dr 150 ft. Texas Production Co.'s No. 1, Rio Blanco County, 27-3-94, dr 2375 ft; No. 2, Rio Blanco County, 31-2-102, running 10-inch casing, td 2325 ft. Northeastern Colorado Oil Co.'s No. 1, Logan County, 36-8-55, dr 1016 ft. Midwest Refining Co.'s No. 2, Rio Blanco County, 30-2-102, dr 2900 ft. E. J. Miley's No. 1, La Plata County, 32-33-12, dr 2260 ft. C. E. Pluckett Interests' No. 1, Pueblo County, 30-20-63, dr 2020 ft. Marland Oil Co.'s No. 1, Moffat County, 16-3-91, fsh 2078 ft; No. 1T, Moffat County, 34-4-92, dr 3290 ft. Elkhead Development Co.'s No. 1, Routt County, 4-7-86, 534 ft. Edmond Drilling & Producing Co.'s No. 1, La Plata County, 23-33-12, commercial production. Foley & Goldworthy's No. 1, Las Animas County, 10-30-60, lcn. Ohio Oil Co.'s No. 1, La Plata County, lcn. Moffat Petroleum Co.'s No. 1, Moffat County, 13-4-92, dr 3550 ft.

West Texas Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Crane County—		
Gulf Prod. Co.'s University-Lassiter 1	120	3075
J. T. McElroy 2-A	165	2906
Marland Oil Co.'s Durham 3	50	2405
Magnolia Pet. Co.'s O'Keefe-University 2	120	3026
The Texas Co.'s King 10	100	2364
Crockett County——		
J. K. Hughes Dev. Co.'s L. P. Powell 2-A	185	2670
L. P. Powell 3-A	300	2689
Tom Green County—		
M. D. Bryant & Marland's Llano County Lands 1	†	2980
Howard County—		
Marland Oil Co.'s Otis Chalk 4	100	1648
Company, Well and Location	Initial Production Bbls.	Depth
Humble O. & R. Co.'s Douthitt 1	70	1675
Upton County—		
Marland & Texon Oil & Land Co.'s H. M. Halff 1	*	4073

DRILLING REPORT

ANDREWS COUNTY—Amon G. Carter and Henry Zweifel's Cowden 1, spudding. Maer-Staniforth et al's W. S. Taylor 1, lcn. Henry Zweifel et al's Means 1, lcn.

BORDEN COUNTY—Julian Pet. Corp. and R. R. Penn's A. J. Long 1, dr 640 ft.

BREWSTER COUNTY—Green Valley Oil Corp.'s J. P. Wilson 3-A, sd 1600 ft.

COKE COUNTY—Lipan Oil Co.'s Rawlings 1, fsh tools 2706 ft; Conner 1, lcn.

CONCHO COUNTY — Arkansas Fuel Oil Co.'s Hartgrove 1, dk. Associated Pet. Co.'s John Waring 1, sd 800 ft. Eugene Mays et al's Hartgrove 1, co 1132 ft. The Exploration Co.'s Wilson-Hartgrove 1, sd 1115 ft. Mullens-Davis et al's Martin 1, sr 315 ft. Marland Oil Co.'s Sanson 1, dk.

CRANE COUNTY—Duffey Bros. et al's Cowden 1, plugged back from 3253 ft to shoot with 600 quarts. Gulf Production Co.'s Crier-McElroy 4, top salt 1015 ft, dr 1280 ft; Crier-McElroy 2-A, rig; J. T. McElroy 2-A, elevation 2601 ft, top salt 1000 ft, top lime 2697 ft, completed flow 165 bbls oil at 2824-2906 ft; J. T. McElroy 4, dr 635 ft; J. T. McElroy 5, dr 330 ft; University-Lassiter 2, rig; W. N. Waddell 1, diamond core machine. Magnolia Pet. Co.'s University-Hardwick 1, elevation 2558 ft, set 6-3/16 cas 2849 ft; O'Keefe 2, elevation 2603 ft, top salt 1180 ft, swabbed 120 bbls oil 2975-3026 ft; O'Keefe 3, rig; Lassiter 1, dr 700 ft. Magnolia et al's University-Church 3, top salt 1137 ft, set 6⅝ cas 2760 ft. Marland Oil Co.'s Cowden 2-A, rig; Cowden 3-A, lcn; Dawson 1, dr 3305 ft; Durham 2, dd, top pay 2300 ft, dr 2390 ft; Dawson 3, completed 50 bbls oil after shot 130 quarts 2352-2405 ft; Hughes C-4, show oil 2385 ft, fsh 2460 ft; Hughes 3-D, 4-D and 5-D, rigs. Marland and F. B. Zoch's Cowden 1-B, dr 1050 ft. McMan Oil & Gas Co.'s Hughes 1, dr 200 ft. Prairie O. & G. Co.'s University 1-A, elevation 2590 ft, top salt 1140 ft, top lime 2900 ft, completed 95 bbls. 3000-50 ft; University 2-A, elevation 2600 ft, top salt 1148 ft, top lime 2930 ft, completed 110 bbls 2990-3026 ft; University 3-A, rig; University 1-B, top salt 990 ft, sd repairs 1265 ft. Ben Simon and Carl Cromwell's Brookfield 1, elevation 2317 ft, top salt 680 ft, fsh 2110 ft. Simms Oil Co.'s Hughes 1, dr 210 ft. Simms & Atlantic's University 1, elevation 2588 ft, top salt 1134 ft, dr 2835 ft. Stedham and Thrasher's University 1, dr 200 ft. The Texas Co.'s King 11, casing trouble after shot 2360 ft; King 12, dr 2290 ft; King 13, lcn. Texas Development Co.'s Cowden 1, sd 3820 ft. Tidal Oil Co. et al's University 2-B, elevation 2587 ft, top salt 1134 ft, top first pay 2970-90 ft, second pay 3016 ft, dr with hfw 3045 ft; University 1-C, elevation 2583 ft, top salt 1143 ft, top lime 2909 ft, flowing and swabbing, pay 3014-55 ft. Henry Zweifel & Hofmeiers' Cowden 1, elevation 2630 ft, top salt 980 to 1760 ft, dr 2200 ft.

CROCKETT COUNTY—Cranfill Bros. Oil Co.'s Harris 1, top salt 1090 ft, dr 1860 ft. Cumberland O. & G. Co.'s Couch 1, sd 2025 ft. Gulf Prod. Co.'s Powell 1-D, top lime 2585 ft, dr 2600 ft. J. K. Hughes Dev. Co.'s Powell 2-B, fsh 2535 ft. Humble & Marland's Powell 1-B, pumped 135 bbls oil first 12 hours 2650-73 ft. Magnolia Pet. Co.'s Shannon 2, dr 505 ft. Republic Prod. Co.'s Powell 2, rig. Wm. Schaeffer et al's University 1, showing oil, dr 2365 ft. J. D. Young and Cromwell's Shannon 1, top salt 920 ft, sd for cas 1333 ft; University 1, elevation 2395 ft, testing oil pay 1160-65 ft.

CROSBY COUNTY—El Capitan Oil Co.'s Robertson 1, dr 520 ft.

CULBERSON COUNTY—Big Lake & Plymouth Oil Co.'s C. L. Cass 1, dr 2110 ft. Jas. H. Gardner et al's Radford-State 1, rig. Pure Oil Co.'s TP Fee 1, dr 1955 ft.

JEFF DAVIS COUNTY—Humble O. & R. Co.'s McCutcheon 1, fsh 3640 ft. J. K. Hughes Dev. Co.'s J. Z. Mens 1, dr 1015 ft; Means 2, lcn.

ECTOR COUNTY—J. S. Cosden et al's Connell 1-A, 1500 ft oih, dr 3865 ft. The Exploration Co.'s TP Fee 1, elevation 3231 ft, top lime 4005 ft, dr 4265 ft; J. D. Slator 1, set 12½ cas 785 ft.

FISHER COUNTY—The California Co.'s R. J. Anderson 1, rig. Bourbon Royalty Co.'s J. A. Denise 1, lcn. Caldwell et al's Rochelle 1, dk. Danciger O. & R. Co.'s Lanius 1, lcn. Gibson-Johnson et al's J. W. Wheeler 1, lcn. Huncony Gas Co.'s Langford 1, spd and sd. Marland Oil Co.'s Hodges 1, sec. 184, blk. 3, lcn. Fred Phillips et al's C. M. Webb 1, rig. R. W. Rainey et al's Marberry 2, dr 1165 ft. Shamrock Pet. Co.'s Weler 1, dr 1700 ft. F. P. Zoch et al's Clayton 1, lcn.

GAINES COUNTY—Westheimer-Daube et al's Forbes 1, lcn.

GLASSCOCK COUNTY—Marland & Parrish & Co.'s Nellie Calder 1, top lime 2265 ft, ur 8¼ cas 2302 ft. Marland & Texon's Settles 1, lcn. Plateau Oil Co.'s L. S. Bell 1, fsh 2270 ft.

TOM GREEN COUNTY — Texon & Marland's Sorrell 1, dr 2590 ft.

HOCKLEY COUNTY—El Capitan Oil Co.'s Ellwood 1, fsh 8¼ cas 1700 ft.

HOWARD COUNTY—Francis & Brunson's J. W. Furrh 1, lcn. Gulf Prod. Co.'s Chalk 1, show oil 1660 ft, ur 8¼ cas with hfw 1710 ft. Humble O. & R. Co.'s Douthitt 1, completed after shot 45 quarts 1648-75 ft. Lockhart & Co. et al's Roberts 1, elevation 2393 ft, sd to plug 1800 ft; Scott-Hyman 1, dr sandy-lime 2925 ft. Magnolia Pet. Co.'s Hyman Chalk 1, rig; Mary Chalk 2, dr 130 ft; G. O. Chalk 4, co 1305 ft; Chalk 5 and 6, lcns; Owen-Chalk 5-A, lcn; Owen-Chalk 6-A, machine. Marland Oil Co.'s Bryse 1, rig; White & Thom 1, dk; Chalk 5, stdz 1447 ft; Chalk 6, rig; Chalk 7 and 8, lcns; Chalk 1-A, fsh 570 ft; Chalk 2-A, spudding. Reeves & Apperman's H. R. Clay 1, show oil 1486-90 ft, dr 1515 ft.

JONES COUNTY—Atlantic Oil Prod Co. & Landreth's E. Howell 1, dr 2205 ft. Bateman & Campbell's Southard 1, rig. Cole-Hart et al's Cranston 1, dr 1215 ft. Gibson-Johnson et al's John Sears 1, set 6⅝ cas 2470 ft, dr 2475 ft; Mrs. J. V. Wright 1, dr 1370 ft; C. M. Largent 1, rig. Gillette & Hickey's S. W. King 1, ur 1775 ft; M. E. Young 1, sd 1200 ft. Marland Oil Co.'s S. R. Cox 1, dr 3085 ft; Mason-Harris 1, dr 2185 ft; Mason-Harris 2, dr 1465 ft; Mason-Harris 3, dr 176 ft. Mid-West Exploration Co.'s Thornton 1, swabbing 510 bbls oil, td 2520 ft; Thornton 2, rig. Grisham-Hunter & Wylman's Geo. Birchfield 1, rig; Williams 1, rig. Garland & Diamond's Glynn 1, lcn. Muse-Robertson et al's Manley 1, dr 980 ft. Hutson & Weaver's A. T. Smith 1, spudding. Vic. H. Martin et al's Culbertson 1, dr 740 ft. Phillips Pet. Co.'s Joe Winters 2, electric power, dr 1660 ft; Tessie-Walling 1, co and swabbing 165 bbls 2523-27 ft. Wm. Sudderth et al's Turner 1, rig. World Oil Co.'s A. W. Clark 1, dr 360 ft. Zeigler et al's Reeves 1, sd 615 ft.

KENT COUNTY—The Texas Co.'s Barron 1, dr 4565 ft.

KIMBLE COUNTY—Dixie Oil Co.'s Harrison 1, set 8¼ cas 2360 ft.

LOVING COUNTY—Duffey Bros. & Arnold's Johnson 1, lcn. Lockhart & Co.'s R. L. Allen 1, elevation 2682 ft, top Delaware 4178 ft, sd with 200 ft oih to pump 4211-4340 ft.

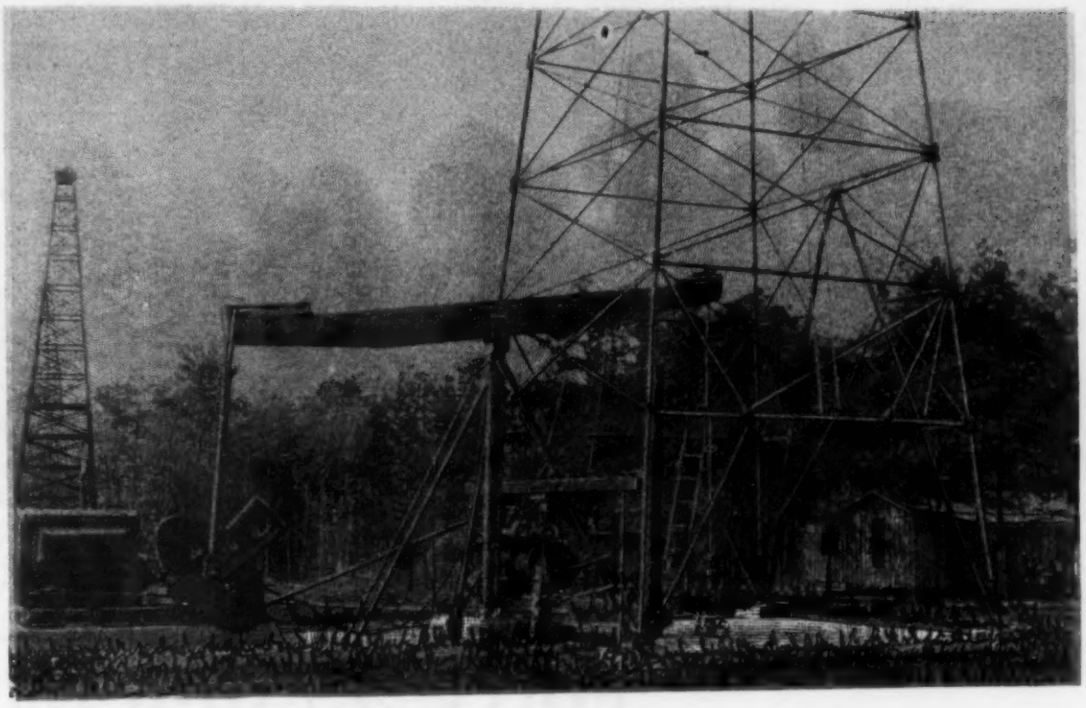
LYNN COUNTY—Hart Oil Corp.'s Edwards 1, fsh frozen cas 1390 ft.

MENARD COUNTY—Elliott & J. R. Lewis' White 1, sd 180 ft. Clark et al's Kothman 1, sd 400 ft.

MITCHELL COUNTY—Magnolia Pet. Co.'s Foster 2-A, set 12½ cas 665 ft; Foster 3, dr 970 ft; Foster 4, dr 415 ft. Mid-Kansas O. & G. Co.'s Ellwood 2, sd 3200 ft. Morrison-Thompson's Griffith 1, sd 1400 ft. Owen-Sloan and The Texas Co.'s C. P. Conway 1-A, dr 3310 ft. Teas-Stover et al's Hardee 1-A, dr 110 ft. Riley & Donnelly's R. H. Crump 1, lcn. B. E. Walters et al's J. E. Dollen 1, dr 400 ft. Yancy et al's Sanders 1, lcn.

NOLAN COUNTY—McCleskey et al's Pepper 1, lcn. Henry Zweifel & Hofmeier's Longbotham 1, set 15⅝ cas 285 ft.

PECOS COUNTY—T. R. Cowell's J. C. Trees 1, ur 12½ cas 1000 ft. Del Rio Drilling Synd.'s K. C. & Ft. Stockton 1, lcn. Dixie



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4. Rope lines which absorb oil.
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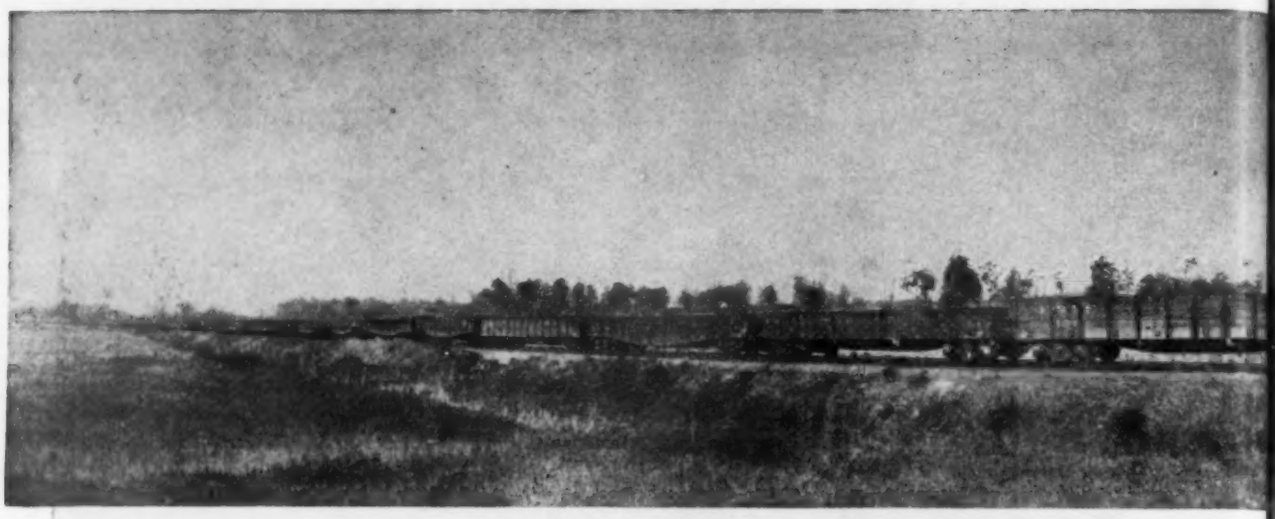

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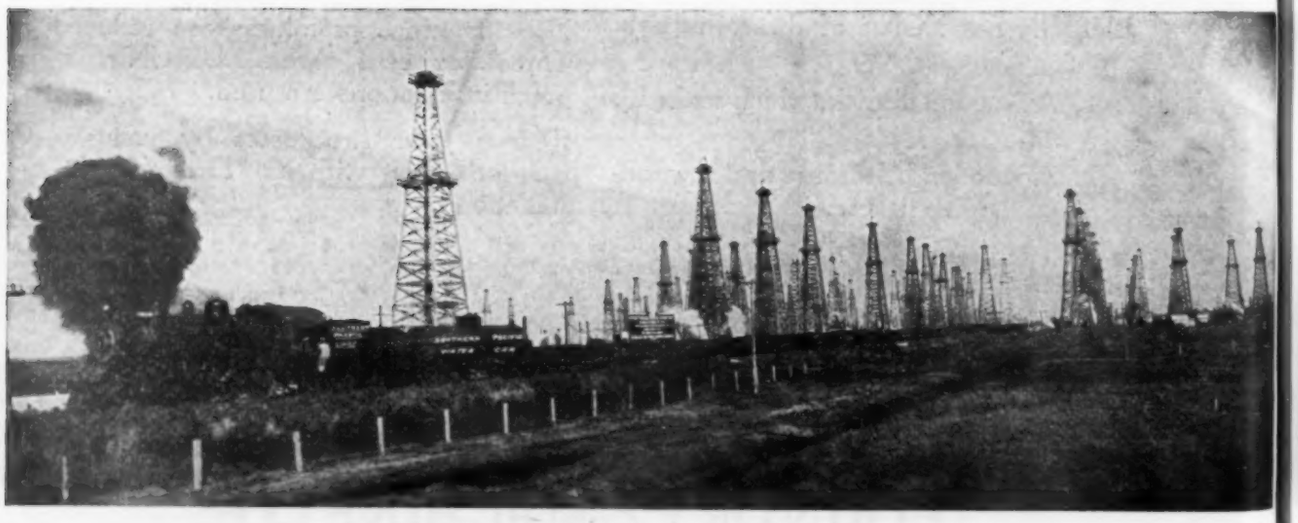

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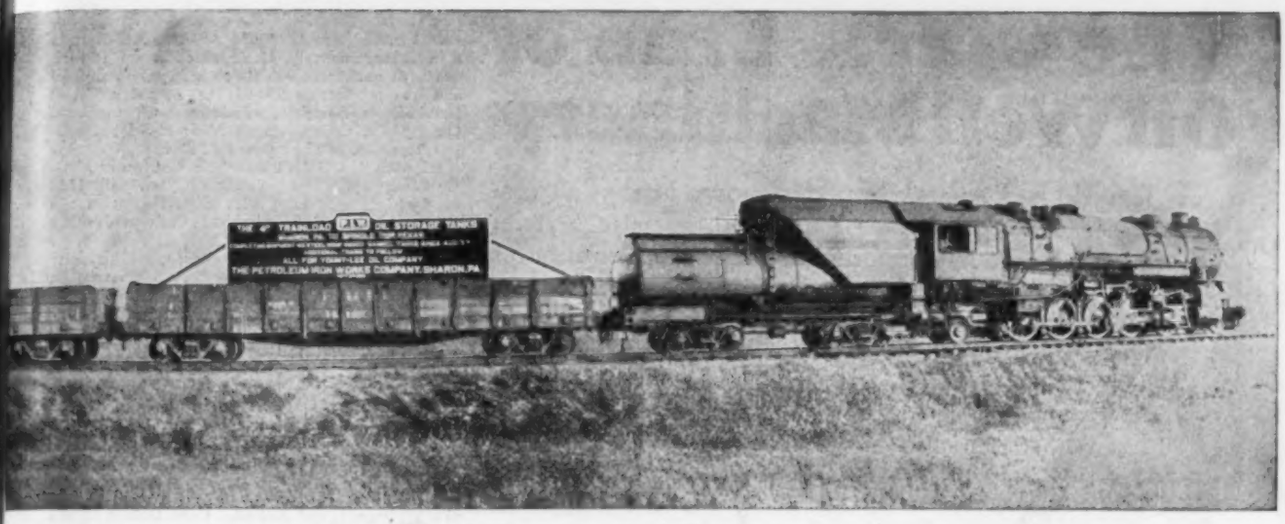

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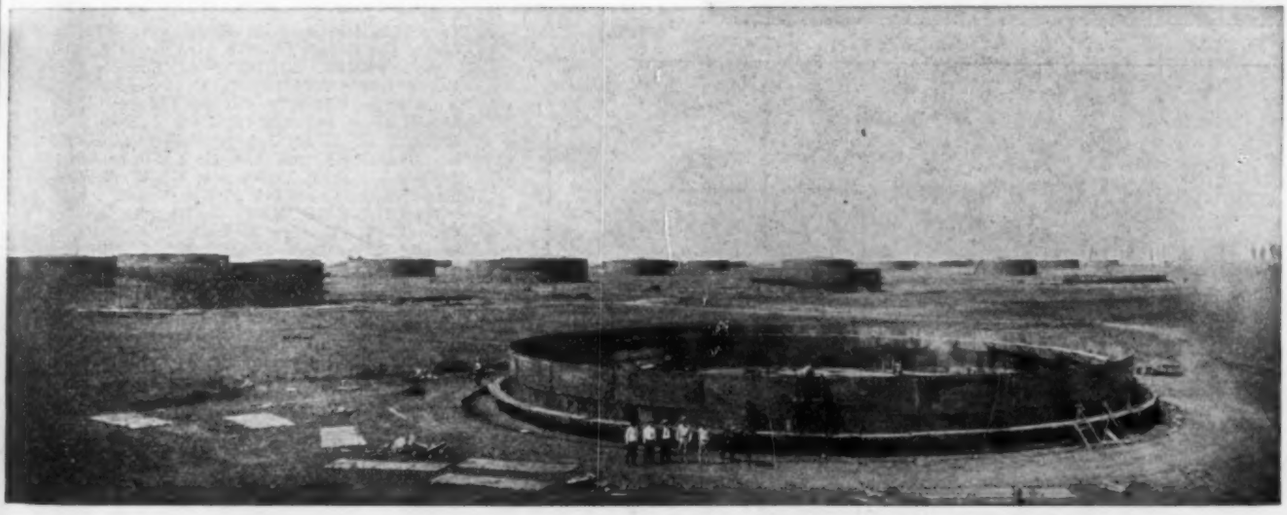
FOR P.I.W. SERVICE

Tanks Fabricated and 47 Days

9,000 tons of steel were required to complete this 2,200,-000 barrel storage order.
Due to the immense facilities of the P. I. W. organization, the erection progressed at the unusual rate of four complete 55,000 barrel steel roof tanks a week.

kable service at any and all times

WORLD WIDE



ERECTION IN PROGRESS AT THE NEW SPINDLETOP FIELD NEAR BEAUMONT, TEXAS

WORKS COMPANY

Say you saw it in The OIL WEEKLY

The Clark Line of Oil Well Machinery

The Model 25 Clark Spudder shown at the left embodies many improvements. Including a special patented wire line spudding device which eliminates vibration and insures a long life for the machine, an improved clutch, brake drums machine finished, brake bands lined with asbestos lining.

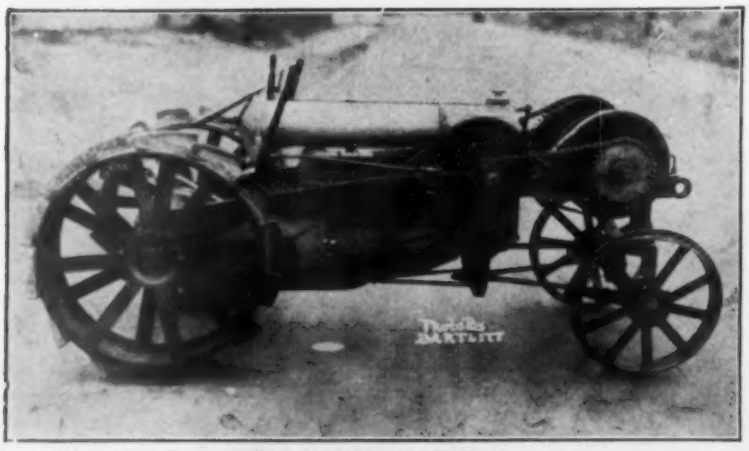
A letter will bring complete details without obligation.

Patented Oct. 8, 1926

The Clark California Type Heavy Duty Winch on 17-30 Minneapolis Tractor

Solves your deep well pulling, bailing and swabbing problems.

Catalog giving complete details will be sent on request.



Patented Oct. 21, 1924

The Clark Winch for Fordson Tractor will handle your Rod and Tubing Jobs in the most economical and satisfactory manner.

Manufactured by

CLARK MACHINE COMPANY

Wichita Falls, Texas

Oil Co. and Plateau Oil Co.'s Cannon 1 and 2, lcns. Cromwell & Kimberlin's Scharff-Blackman 1, dr 225 ft. J. G. Buell & Hagan's So. Life Ins. Co. Fee 1, dr hfw 810 ft. Mid-Kansas & Transcontinental's I. G. Yates 1, set 10-inch cas with packer at 940 ft, co mud to restore oil and gas production 990-97 ft. Stockton Oil & Land Co.'s Perry 1, spudding with machine. Quinby Oil Co.'s Bennett 2, dr 630 ft; Townsite 1, sd in sulphur water 3340 ft.

REAGAN COUNTY— The California Co.'s University 1, elevation 2821 ft, top salt 1300 ft, dr hfw 2475 ft. C. M. Cope-Hagan et al's White 1, rig. Hiawatha Oil Co.'s University 1, dr 870 ft. Moody Oil Corp.'s Sawyer 1, dr 1630 ft. Marland & Geo. Anderson's University 1, lcn. Texon Oil & Land Co.'s University 6, Group 2, dr 590 ft.

REEVES COUNTY—Deep Rock Oil Co.'s Caldwell 1, rig. Grisham-Hunter Corp.'s State Fee 1, dr 2760 ft. Humble O. & R. Co.'s TP Fee 1-B, lcn. World Oil Co.'s Biggs-Holder 1, dr 1065 ft.

RUNNELS COUNTY—Bell & Moore's W. W. King 1, spd and sd; Ferguson 1, materials. Red Bank Oil Co.'s Fowler 1, co 2340 ft. Frank Yates et al's McMillan 1, dk. F. P. Zoch et al's Bruce 1, dr 2725 ft.

SCHLEICHER COUNTY—Beavers-Leath et al's Whitten 1, spd and sd. Cope-Dalton et al's Sol Meyers 1, ur 6⅝ cas 2935 ft.

SCURRY COUNTY—Northwest Co.'s T. C. Stinson 1, top lime 1487 ft, dr 1690 ft.

STERLING COUNTY—The California Co.'s J. T. Davis 1-A, dr 2080 ft. J. P. Williams et al's Clark 1, sd 450 ft.

TAYLOR COUNTY—City of Abilene's Fee 1, sd 2265 ft. Gibson-Johnson's Haines-Hamilton 1, spd and sd. Grisham-Hunter Corp.'s Huddleston 1, dk. Noodle Creek Oil Co.'s Alice Rose 1, spudding. Sanger O. & R. Co.'s Cox 1, sd 1805 ft; Gillespie 1, dr 510 ft.

TERRELL COUNTY—Sun Oil Co.'s N. M. Scott 1, 6⅝ cas 3557 ft, dr water sand 3600 ft. E. T. Williams et al's Cowden 1, sd hfw 2825 ft.

TERRY COUNTY—Kingsland Oil & Potash Co.'s Brownfield 1, sd 470 ft.

UPTON COUNTY—Gulf Prod. Co.'s J. T. McElroy 1-C, dr 410 ft; McElroy 2-C, dr 255 ft; Shirk 1-E, elevation 2742 ft, top salt 758 ft, top lime 2148 ft, putting on pump at 2290-2331 ft; Hughes 1, rig. L. E. Hults et al's Giddings 1, dr 200 ft. Johnson-McCamey and Atlantic's Shirk 1, elevation 2738 ft, top salt 745 ft, swabbing 65 bbls oil at 2320-41 ft. Johnson-McCamey et al's Union 1, elevation 2715 ft, top salt 820 ft, dr 2298 ft. Marland Oil Co.'s Reese 1, elevation 2273 ft, top salt 720 ft, show oil 2160-65 ft, dr 2175 ft; Powell 1, show oil 2352-60 ft, dr 2365 ft; Shirley 2, rig; Shirley 3 and 4, lcns; University 1, rig. Pure Oil Co.'s Shirk 1, lcn. Sartain Bros. & Davis' Mrs. Bull 1, sd 2460 ft. Skelly Oil Co.'s O. P. Jones 1, fsh 3595 ft. Texon Oil & Land Co.'s Shirk 1, elevation 2752 ft, top salt 750 ft, dr 1790 ft. Texon & Marland's Halff 1, abn 4073 ft. Wentz Oil Corp.'s Shirk 2, rig.

VAL VERDE COUNTY—A. Blume et al's Moore 1, fsh 2675 ft. O. O. Owens et al's Mills 1, rig. Douglas Oil Co.'s Sellars 1, dr 580 ft. East Del Rio Oil Co.'s Russell 1, sd 3065 ft. S. A. McCaskeys' Sellars 1, sd 475 ft. Transcontinental Oil Co.'s Stevenson 1, dr 2405 ft. E. T. Williams et al's W. T. Holman-McNutt 1, sd 705 ft.

WINKLER COUNTY — Champlin Drilling Co.'s C. W. Cowden 1, lcn. Gibson-Johnson et al's R. A. Leck 1, lcn. Ed. S. Hill and Ladd-Simon's Amburgey 1, trying to dr by tools 700 ft. McCullough & Marland Oil Co.'s Tobe Morton 1, rig. R. S. Mathews et al's Cowden 1, dr 1240 ft. Llano Oil Co.'s Scarborough 1, lcn. Independent O. & G. Co.'s Hendricks 1, lcn. Pure Oil Co.'s Hendricks 1, lcn. Southern Crude Oil Purchasing Co.'s (was R. A. Westbrook et al) Hendricks 1, flowing 130 bbls oil daily 2965-3005 ft. F. P. Zach et al's Sealy 1, dr 845 ft.

Coastal Wildcats

COMPLETIONS

Fort Bend County—
Vacuum Oil Co.'s Owens 1..... * 600

Liberty County—
Sun Co.'s Chambers 1..... * 2558

DRILLING REPORT

BRAZORIA COUNTY—Gulf Prod. Co.'s Perry 1, Stratton Ridge, dr 3565 ft, rock. Rox-

Drill Pipe and Line Pipe

Complete Stock Ready for Immediate Shipment

Also Stocked For Prompt Service

Borden Company
Beaver Stocks and Dies

Boykin Machinery & Supply Company
Rotaries, Crown and Traveling Blocks

Chain Belt Company
Chabelco and Deepwell Chain

Gardner Governor Company
Steam, Power, and Motor Driven Pumps and Compressors

Jefferson Union Company
Unions

Kerotest Manufacturing Co.
Kerotest Valves and Fittings

Lufkin Rule Company
Metallic Tapes, Gauge Lines and Rules

Lunkenheimer Company
Lunkenheimer Valves and Fittings

Penberthy Injector Company
Ejectors and Injectors

Pioneer Rubber Mills
Copper Queen Belting, Skoocum Packing

Toledo Pipe Threading Machine Co.
Toledo Stocks and Dies

Walworth Company
Valves and Fittings

Whitlock Cordage Company
Rope

Hercules Motor Corporation
Power Units

A. M. Byers Co.
Wrought Iron Tubing, Casing and Drill Pipe

Jones & Laughlin Steel Corporation
Lapwelded Steel Line Pipe, Casing and Tubing

Pittsburgh Steel Products Company
Seamless Drill Casing and Tubing

Well located distributing centers assure quick, dependable service

Write, phone or wire your needs

Have you a copy of our catalogue?

NORVELL WILDER HARDWARE CO. — QUALITY SERVICE

NORVELL WILDER HARDWARE CO.

BEAUMONT HOUSTON SHREVEPORT FORT WORTH

FOR DEE

McEvoy Wireless Well Strainers

THE RESULT OF 25 YEARS OF EXPERIENCE AND CONSTANT IMPROVEMENTS

Patented

ADVANTAGES:

GREATER inlet area without useless screening surface.

GREATER efficiency of design allows **flush jointing.**

GREATER Production through **vertical slots.**

GREATER collapsing resistance.

GREATER pulling strength.

IDEAL FOR DEEP HOLES

Used in famous Miley Athens Well No. 6, Deepest Producing Well in the World, 7495 feet.

OUR MANUFACT

STRAINERS
PACKERS
BREAK-OUT WASH RINGS
WOOD WASH PLUGS

Try Our McEvoy Ups
WITH REVERSIBLE

J. H. McEVOY

OIL, GAS AND WATER
HOUSTON,

Say you saw it in The OIL WEEKLY

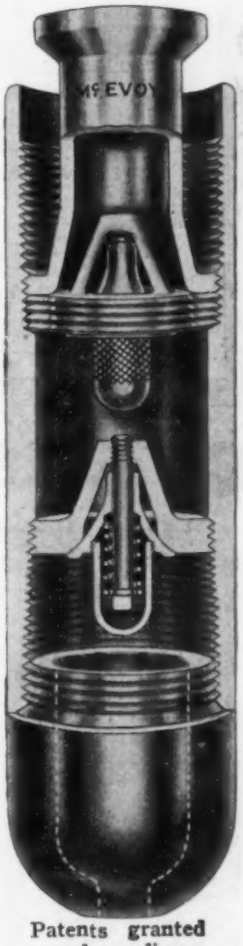
EP WELLS

McEvoy Set Shoe Assemblies

CAREFUL ENGINEERING IS THE KEYNOTE OF THIS DESIGN

ADVANTAGES:

1. It is the only **lubricated** back-pressure valve on the market.
2. It has a large opening and plenty of clearance.
3. It is stream lined to permit of easy passage of fluids.
4. It is protected from damage at all points.
5. It is automatic in function.
6. Made in all usual sizes: 2½", 3", 3½", 4", 4½", 4¾", 5-3/16"' 6", 6¼", 6⅝".



Patents granted and pending

URED PRODUCTS

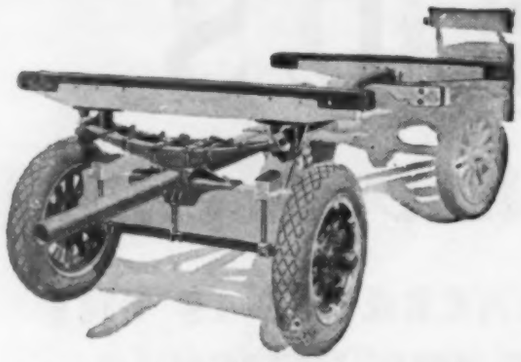
LEAD SEALS
STEEL WASH AND PULL RINGS
SET SHOE ASSEMBLIES
LUBRICATE B. P. VALVES

et Flush Joint Bailers

DOUBLE WEAR VALVES

& COMPANY

WELL SUPPLIES
LOS ANGELES



The "Devil Dog" of Trailers

WHEREVER there's oil there are Nabors Trailers. The eternal built-in stamina, uniformity of construction, interchangeability of parts, and national reputation of Nabors Trailers make them the oil man's favorite. Their everlasting durability makes them the veritable Devil Dog of Trailers.

Nabors Spring Trailer
$295
Nabors Non-Spring Trailer
$235
Fully Equipped
F. O. B. Mansfield, La.

Sold Through Authorized Truck Dealers Everywhere.

W. C. NABORS CO.
Mansfield, La.

QUICKSET—

Cement Accelerator And Hardener—

Used in oil wells it requires less than three hours to set cement perfectly with a hardness and finish equal to curing under usual conditions of much longer duration.

The use of Quickset in addition to the short time required for cement to thoroughly set by its use, it will be found to be of considerable advantage in increasing hardness and strength of the cement.

SUSPENSOID—

An oxide of iron of high iron content so treated as to remain in suspension in oil or water.

Increased sales on the following products show an overwhelming evidence of their merit.

NON-RUSCO pipe coating, SOLIN paraffin solvent, H ACID scale cutting compound for gas engines.

Sold through supply stores. Stocks carried at all active fields.

Ward Chemical Co.
Chemical Specialists For The Oil Industry
Tulsa, Oklahoma

WARD
BOILER SCALE REMOVER

ana Pet. Corp.'s Pabst 2-A, Clemens dome, dr 1682 ft, gumbo; Clemens Bernard River 1, Clemens dome, dk; Clemens 3, Clemens dome, sd 3102 ft, oil sand; Allen Bernard River 1, Allen dome, dr 3252 ft, gumbo; Allen 3, Allen dome, dr 4225 ft, sandy shale and lime.

CHAMBERS COUNTY — Patillo Higgins' Fee 1, Barbers Hill, will deepen, 11.8 ft. Osage Oil Co.'s State 1, Lake Charlotte, dr 4635 ft, shale.

FORT BEND COUNTY—The Texas Co.'s Farmer 1, Boling, dr 5050 ft, sandy lime and shale. Vacuum Oil Co.'s Owens 1, Boling, abn cap rock 600 ft. Sun Co.'s Farmer 2, Boling, dr 750 ft, rock. Gulf Prod. Co.'s Davis 20, Long Point, dr 811 ft, sandy rock; Davis 21, Long Point, dr 882 ft, gumbo and lime; Beard 2, Long Point, dr 801 ft shale and boulders.

GOLIAD COUNTY—Houston Oil Co.'s Pettus 2, Goliad, dr 3277 ft, sticky shale and lime; Parks 2, Goliad, rigged up and standing.

HARRIS COUNTY—Mike Katter's Crews 1, 5 miles W Humble, sd 2435 ft.

JACKSON COUNTY—L. E. Norton's Fenner 1, C. O. Fenner 676 acre tract, sd 3012 ft.

JEFFERSON COUNTY—Gulf Prod. Co.'s Bordages 2, Fannette, co to deepen, 4993 ft; Thomas 9, Fannette, dr 4326 ft, gumbo. Port Arthur Dev. Co.'s West 4, Westbury, will deepen, 1846 ft. New Beaumont Oil Co.'s Garrick 1, N of Spindle Top, dr 3650 ft, gumbo. Rio Bravo Oil Co.'s T.&N.O. 100, NW of Spindle Top, dr 1968 ft, lime rock. Brooks Supply Co.'s Young 1, 5 miles S of Spindle Top, sd 2575 ft.

LIBERTY COUNTY—Sun Oil Co.'s Chambers 1, Moss Bluff, abn 2558 ft, gumbo.

WHARTON COUNTY — Rich-Humphreys' Malone 1, 5 miles W Wharton, moving in heavy rig. The Texas Co.'s Taylor 11, Boling, dr 2985 ft, gumbo.

East Central Texas Wildcats

COMPLETIONS

Limestone County—		
W. K. Clayton et al's Joe Thornton 1	•	3090
Navarro County—		
W. W. Stanley et al's M. E. Cox 1	•	2780

DRILLING REPORT

FALLS COUNTY—Callahan et al's Wilson Scott 1, spd.

FRANKLIN COUNTY—L. E. Trout et al's O. W. Gandy 1, spudding.

FREESTONE COUNTY—J. S. Cosden et al's J. E. Woods 1, dr 1840 ft. Orbit Oil Co.'s F. A. Coleman 1, dr 570 ft.

HENDERSON COUNTY — Barkley-Meadows et al's Wm. McClung 1, elevation 278 ft, top Austin chalk 2504 ft, dr chalk 2610 ft. Fred Haynes et al's Mrs. B. E. Purefoy 1, lcn.

HILL COUNTY—Killem & Phillips' T. B. Finley 1, lcn.

LIMESTONE COUNTY — Alexander-Lyles and The Texas Co.'s D. E. Cleaver 1, dr 890 ft. Bains Creek Oil Co.'s T. H. Jackson 1, rig. C. W. Green et al's A. M. Beall 1, dr 790 ft. Harrison & Pandem Oil Corp.'s Bassett 1, top Austin chalk 3125 ft, sd for stem 3130 ft. Humble O. & R. Co.'s Gunter 1, dr by stem 3324 ft. Kosse Synd.'s Jones 1, dr 1570 ft; Fenner 1, sd to abn 2920 ft. Magnolia Pet. Co.'s J. R. Stroud 4, rig. E. L. Smith Oil Co.'s Jake Stubenrauch 1, elevation 529 ft, Austin chalk 2236-2446 ft, dr shale 2470 ft. Oxford Oil Co. et al's J. B. Riddle 1-A, top Austin chalk 2380 ft, sd repairs in chalk 2400 ft.

McLENNAN COUNTY — Virtex Development Co.'s (D. H. Byrd) Bruce Duncan 1, sd 2002 ft. Castleman Creek Oil Co.'s Schapshearer 1, sd 1310 ft.

NAVARRO COUNTY—J. S. Cosden et al's J. H. Finch 1, sd 3040 ft. McNeil et al's Pierce 1, sd 3337 ft. Magnolia Pet. Co.'s W. M. Marshall 1, lcn. Reiter-Foster & Henchcliffe's G. W. Ross 1, dr 880 ft. Riverland Oil Co.'s Strotter 1, sd 670 ft. Sun Oil Co.'s H. A. Swink 1-C, standardizing 3943 ft. The Texas Co.'s Byron Cheney 1, J. White survey, elevation 322 ft, Austin chalw 2426-2825 ft, coring sandy-shale with show oil 2979-82 ft.

(Patented)

"H. E." Special Tools Of Real Merit

(Pat. Pending)

At the left is shown the Edwards Reversing tool that has proved mighty effective to many operators throughout the Southwest. This tool makes left handed pipe unnecessary; it operates with strain on pipe and may be released at will.

At the right is the Edwards "cut and pull" inside casing cutter. No mandrel necessary; use drill stem only. It cuts and pulls at one trip. Operators will vouch for the great work of this tool.

Other "H. E." special tools include Spears, Jars, Overshots, Taper and Box Taps, Flow Testers, etc.

Ask Your Supply Store for "H.E." Tools

ANNOUNCING

The perfection of a new

Variable Speed Unit

For Pumping Jack and Light Draw Works

One shaft Draw Works, two sprockets, cat heads on each end of shaft; loose drum, one sprocket to rotary, one sprocket for drive, SINGLE LEVER CONTROL.

Send for details. Further announcement will follow.

(Pat. Pending)

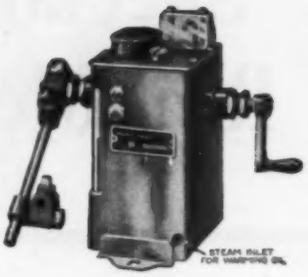
Houston Engineers

HOUSTON, TEXAS

Phone Preston 1927. Night Phone: Taylor 1996. Box 276

The Lubricator You Need for Oil Field Service

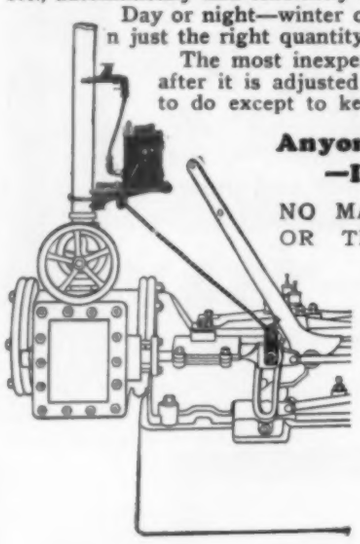
Requires no attention. Doesn't need to be turned on or shut off. Automatically starts, speeds up, and slows down, just as the engine does, and stops feeding the instant the engine is shut down.



The "Manzel" Force Feed Lubricator

Lubricates drilling engines, mudhogs, air and gas compressors, pumps, etc., automatically and efficiently and reduces oil bills 30 to 60 per cent. Day or night—winter or summer, it supplies oil regularly and n just the right quantity.

The most inexperienced helper can take care of it, for after it is adjusted to suit your engine, there is nothing to do except to keep the reservoir supplied with oil.



Anyone Can Install It—In the Field —In Less Than Half an Hour

NO MACHINE WORK, PIPE FITTING OR THREAD CUTTING NECESSARY

We furnish (when desired) special brackets and complete fittings for installing on Oil Well, Acme, Ajax, Warren or other drilling engines, either single or double type. In less than thirty minutes after you receive the "Manzel" Lubricator, you can have it installed on your engine and your lubrication troubles will be over.

Sold by All Leading Supply Dealers

MANZEL BROTHERS COMPANY

332-334 Babcock Street Buffalo, N. Y.

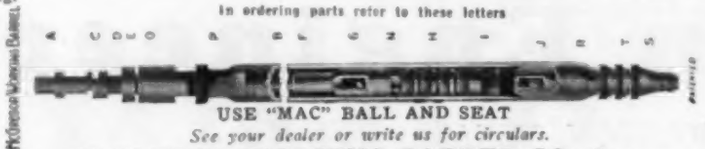
McGREGOR

"The Working Barrel That Works"

Over fifty-five thousand now in use from Pennsylvania to Argentine and from Oklahoma to India wherever oil is produced.

No Barrel can compete with the McGregor in price and saving. It comes with the barrels, valves, valve stem all complete at a price slightly more than what the old style Barrel would cost. Pumps as fast as regular barrels that are attached to the tubing.

In ordering parts refer to these letters



USE "MAC" BALL AND SEAT

See your dealer or write us for circulars.

McGREGOR WORKING BARREL CO., Inc.

Sole Manufacturers

BRADFORD, PENNA.

San Antonio Wildcats

ATASCOSA COUNTY—Witherspoons Oil Co. No. 1 English, dr.

BEXAR COUNTY—B. F. Thompson No 1 Weites, dr below 1650 ft.

BASTROP COUNTY—W. L. McClanahan No. 1 Sodrok, dr. John Storey No. 1, dr.

CALDWELL COUNTY—Bristol Oil & Gas Co. No. 1 Demon, dr. Foster-Reister Oil Co. No. 1 Riddle, dr. E. L. Smith Oil Co. No. 1, preparing to spud in. John Storey No. 1 Jeffreys, ur. United North & South Oil Co. No. 1 Kelly, dr 6495 ft; No. 1 Tiller, dr around 6000 ft.

DUVAL COUNTY—Associated Oil Co. No. 1 Sutherland, dr. Barkley-Meadows-Morgan No. 3 King Harper, dr. Humble Oil Co. No. 1 Dowdy, dr; No. 5 Schallert, dr; No. 7 Walsh, dr; No. 1 Beecher, dr; No. 11 Singer, dr. O. W. Killam No. 3 Lopez, lcn; No. 4 Lopez, lcn; No. 5 Lopez, lcn; No. 8 Lopez, lcn. Magnolia Pet. Co. No. 1 Spear, dr. Maurer & Duggan No. 1 Hoffman, dr. G. B. Pickett No. 1 survey 230, dr. Simms Oil Co. 1 Schallert, dr. Texas Company No. 1 Dinn, plugging.

GONZALES—Martin Oil & Development Co. No. 1 Preston, dr. R. J. Kercheval et al No. 1 Billings, preparing to swab, oil bailed at 1182 ft.

KELBERG COUNTY—Humble Oil & Ref. Co. No. 2, lcn.

STARR COUNTY—Danciger Oil & Ref. Co. No. 2, lcn.

STARR COUNTY—Danciger Oil & Ref. Co. No. 1 Newman, dr. Deckle & McCarley No. 1 Garcia, dr. T. C. Hadley No. 1 M. M. Garcia, dr. L. Pearson et al No. 1 Pefley, dr. Suladie Drilling Co. No. 1 in the Sal Colorado Grant, lcn.

ZAPATA COUNTY—Howard-Staggs et al No. 1 Hinnant, spudding in. Killam No. 1 sur 307, dr. Texas Company No. 3 Jennings, testing at 4180.

Kansas Wildcats

COMPLETIONS

Kingman County—

Ozark Drilling Co. Richards 1, SEc NE SW 4-30-6 ..... * ....

DRILLING REPORT

BARBER COUNTY—Skelly et al Richardson 1, SWc 30-30-14, sd 4680 ft. Vickers Pet. Co. et al Ott 1, SWc 30-32-14, sd 4506 ft. Shaffer Oil and Gas Co. Alexander 1, C SE 13-33-13 dr 4250 ft.

BARTON COUNTY—Huffin et al Smith 1, NE SE NE 17-19-11, sd 5120 ft.

COWLEY COUNTY—Branson et al White 1, SEc SW SW 7-30-6, fsh 1565 ft.

LYON COUNTY—Culp et al No. 1, SWc SE 35-19-10, sd 220 ft. Gashe & Balliere Scott 1, NWc 32-20-13, machine.

RENO COUNTY—Sheldon et al Mangison 1, SEc NW 10-23-4, sd 3330 ft. Fleeger et al Neeley 1, SEc NW, 35-23-7, ur 3325 ft.

RUSSELL COUNTY—Keyes Pet. Co. Sloan 1, C SE SW SE, 2-13-15, cwt 2650 ft. Wilcox Russell Wilson 1, SE SW 14-12-13, dr 3385 ft.

SUMMER COUNTY—Stalling et al Rice 1 C NE NE NW 3-32-2, co 3812 ft.

SEWARD COUNTY—Wilson et al Son 1, C NE NE NE 14-33-33, lost hole 600 ft.

Oklahoma Wildcats

COMPLETIONS

Hughes County—

Magnolia Pet. Co. Medore 1, NWc SW 28-8-9 ..... * ....

Kingfisher County—

Hoffman et al Ottie 1, NWc NE 20-13-8 ..... * ...

DRILLING REPORT

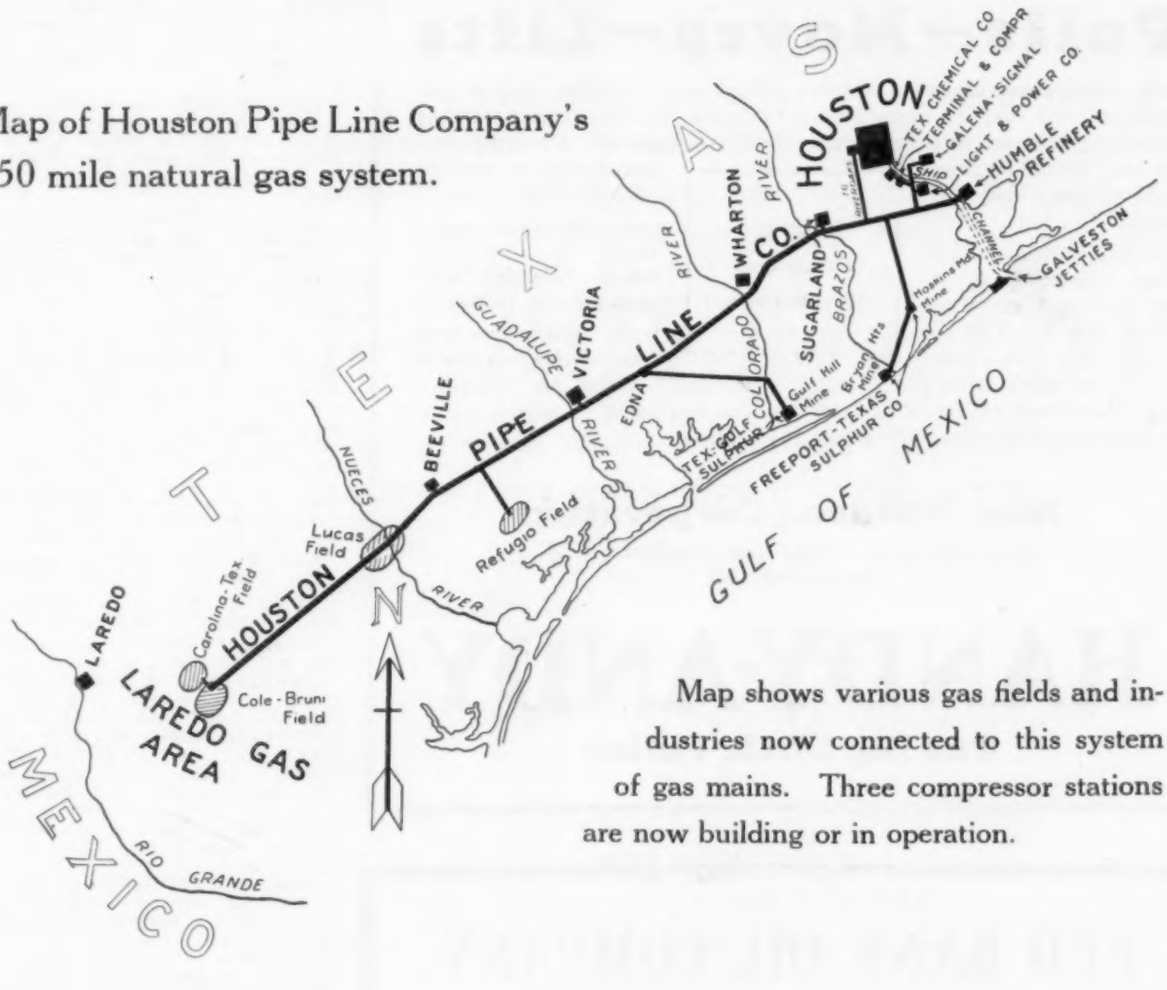
CADDO COUNTY—M. J. Hartley Calbreath 1, SEc NW SE 28-5-12 owd dr 3300 ft. Abernathy No. 1, C NE NW 8-5-11, lcn. Abernathy No. 1, C SW NE 23-5-11, running 10-inch to carry td 1100 ft, dr 1500 ft.

CANADIAN COUNTY—Hannum, Frank &

HOUSTON PIPE LINE CO.

Wholesalers of Natural Gas

Map of Houston Pipe Line Company's 450 mile natural gas system.



Map shows various gas fields and industries now connected to this system of gas mains. Three compressor stations are now building or in operation.

HOUSTON PIPE LINE CO.

HOUSTON :-: TEXAS

A Small, Portable, Power Unit

You wouldn't think of trying to get along without lifting jacks. Here's another jack you shouldn't be without — one even more useful—a jack that PULLS. This little device works with a ratchet movement and

Pulls—Moves—Lifts

with tremendous capacity. Light, compact, and easy to move from place to place on its small truck wheels. Works in close quarters and in any position.

10 to 40 Tons Line Pull Handy-Andy is all steel and made to stand abuse. Saves time and labor on scores of heavy moving and pulling jobs around refineries, in fields and on pipe lines. For pulling pipe and casing, pulling out stalled trucks, shifting and unloading heavy equipment, moving and erecting tanks, moving cars short pulls, etc.

Write for Prices and Specifications

Comes Ready to Put to Work. Handy-Andy comes complete with cables ready to put to work. Made up with four outfits of cable equipment. Write for literature, prices and name of nearest representative.

John Waldron Corporation
Sales and Export Office: New Brunswick, N. J.
Established 1827

HANDY-ANDY
The Big Little Puller

RED BANK OIL COMPANY

Producers of Crude Oil

General Offices

306 Castle Building
TULSA, OKLAHOMA

Slick, Pazourock 1, SW NE 29-13-5, sd 3889.

CIMMARRON COUNTY—Ramsey Bros. No. 1, C NW NE 27-5-5, dr 2680 ft. Fenton, Brokins et al Smaltz 1, SEc NE NE 2-2-9, spudded and sd.

COMMANCHE COUNTY—Cherry & Couch Ritchie 1, NWc SW 19-2-9, sd 1882 ft, est 10 bbls 28 gravity, sd. Mid-Kansas Oil & Gas Co. Cox 1, NEc SE NE 30-1-13, td 1920 ft sd.

GARFIELD COUNTY—Haley, Garber & Pulse Chevekier 1, NWc SW 6-23-4, 6-inch csng 4236 ft, dr 4360 ft. Sinclair Fee 1 SWc SW NE 2-20-5, cwt 6-inch 4507 ft, dr plugs.

GRANT COUNTY—Ostot Dev. Co. Snyder 1, NEc 6-28-4, hrw td 4330, fshg. Barzell & Moses Royce 1, SWc NW 34-26-4, sd 550 ft. Dedman Flenngan & Hennage, Sherran 1, NEc SW 16-26-3, sd 1910 ft.

HUGHES COUNTY—Sand Pet. Co. Harnage 1, C SE SE SE 10-8-9, ts 3398 ft, bs spray 35 bbls daily td and ts 3410 ft, sd acct wind. Sorry & Swartz Wallace 1, SEc NW SE 4-8-11, hfw, measured 10-19-26. Johnson et al Bear 1, SWc SE NW 32-8-11 ts 3855-61 ft, hfw, plug back to 1575 ft.

KIOWA COUNTY—A. C. Varner Boham 1, SEc SW NW NW 5-6-10, sd 1127 ft, liitgation.

KINGFISHER COUNTY—Marland Oil Co., No. 1, SWc NW 12-18-5, 6-inch at 4186 ft, dr 4415 ft. Pet. Eng. Core Drilling Co. Canfield 1, C NW SE 6-16-7, rig. McKenna & Crawford, Sturgeon 1, NEc SW 27-16-6, sd 1685 ft, repairing rig. Retier & Foster, Davidson 1, SWc 23-15-5 rig.

KAY COUNTY—Tom Palmer et al Barclay 1, NEc NW 28-26-1, ts 4549 ft, 4560 ft hfw. Ponco Lee Oil Co. McNeal 1, NE 32-26-2, 2600 ft td fshg 8-inch csg. Tonkawa Dev. Co. McDaniels 1, C SE SE SE 15-25-1, sd 1140 ft.

LINCOLN COUNTY—Wentz Oil Corp. Lukenbeal 1, SWc SE 34-17-2, dr 3244 ft. Mid-Kansas Oil & Gas Co. Griwold 1, NEc NW 33-17-4, dr 4350 ft. Olean Pet. Co. Morris 1, SEc NW NE 18-16-4, sand 4509-12 ft show oil td 4534 ft fshg.

LOGAN COUNTY—Brayn & Emery Scott 1, NWc SE 33-19-4, dr 2415 ft. Carter Oil Co. Rogers 1, SWc NW 32-19-3, hfw 4030-40 ft, 6-inch at 4135 ft, dr 4154 ft. Franklin Oil and Gas Co. Moore 1, SWc SE 28-18-4, stripping 5-inch 4029 ft. Haley & Pioneere Quair 1, SWc SE 11-18-3 td 1900 ft, rig burned down. Zingery et al Varker 1, NWc NE NE 5-17-1, 8-inch at 3500 ft, sd 3690 ft. T. B. Slick Berry 1, SWc SE 28-17-1, dr 3213 ft hfw. Blackford Oil & Gas Co. Liar 1, C SL N½ SE 28-16-1, sd 1675 ft, litigation.

PAYNE COUNTY—Twin State Oil Co., Tibler 1, NEc NW NE 23-18-1, dr 1752 ft.

LOVE COUNTY — Schermerhorn-Ardmore Dillard 1 SEc NE NW 25-6-2, dr 4280 ft.

NOBLE COUNTY — George Miller 101 Ranch 1, NEc 1-24-1, td 4500 ft, dr.

OKFUSKEE COUNTY—T. A. Johnson Leady 1, NEc SE SE 25-12-9, dr 220 ft. J. M. Kessel Scott 1, SWc 8-12-11 dr 2210 ft.

POTTAWATOMIE COUNTY—Shaffer et Ives 1, NWc SE SE 12-10-3 sd 3620 ft. McCullough Madgett 1, NWc 25-10-4 td 4560 ft sd. Tidal Osage Kenyon 1, SWc SE SE 3-8-4, thl 4128 ft, bottom hole 4187 ft, 3700 ft oih. Davis Setrick McGathy 1, SEc NW 10-6-3, dr 4670 ft. Magnolia Fyke k, NWc NW 20-7-5, co 3965 ft.

SEMINOLE COUNTY—Barnsdall Sullivan 1, NEc SW 10-9-5, building rig first report. Carter Oil Co. Harjocke 1, NEc NW NW 26-10-6, ur 8-inch csg 2745 ft td. Superior Oil Co. Noble 1, SEc SW SE 10-9-6, dr 3153 ft. Pure Oil Co. Joah 1, C E L NW NE 15-9-7, td 2952 ft, fshg. Champlin & Base Sewell 1, NE SE SW 15-8-8 rig. Magnolia Pet. Co.'s Strother 1, SEc NW 17-8-6, dr 450 ft. Empire Gas & Fuel Co. Litka 1, SWc SW 3-7-6, sand, oil and water, co, will complete and treat. I. T. I. O. Co. Litka 1, C NE NE 9-7-6, sd 2781 ft. Magnolia Jancksom 1, SWc NE 22-7-7, dr 3335 ft.

TEXAS COUNTY—Valeriue Oil & Gas Co. No. 1, NWc SW 18-3-12, dr 3300 ft. Valeriue Oil & Gas Co. No. 2, SEc SE 32-5-12, sd 4002 ft. contract comp. H. F. Wilcox Zea 1, SWC SE 29-3-12, td 3045 ft, fshg tools. H. F. Wilcox Hovey 1, SEc SE 21-4-14 ft sd line 4012 ft. Haley, Garber & Pulse Ellison 1, NWc SE SE 4-1-12, show oil 2705 ft, ur 8-inch casing. Reiter-Foster Kugle 1, C NE 10-2-11,

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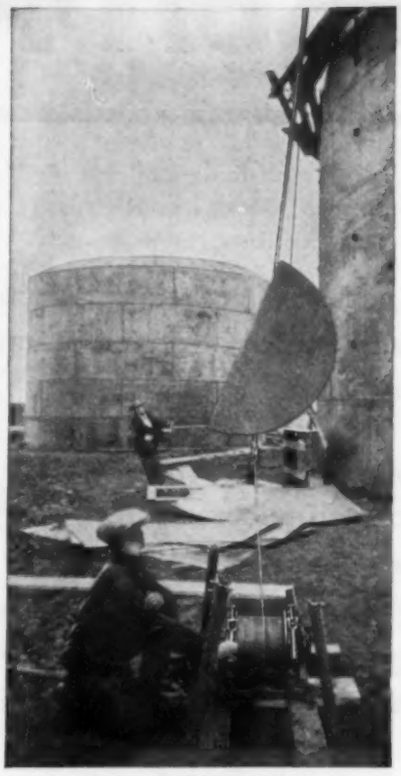

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Arkansas Wildcats

COMPLETIONS

Jefferson County—
Decem Oil Co.'s Hensley 1, 7-3-10.. * 2615

Union County—
Natural Gas & Fuel Corp.'s Cordell 1, 9-18-13 ..... * 2537

DRILLING REPORTS

BRADLEY COUNTY—Arkansas Fuel Oil Co.'s Arkansas Lumber 1, 25-16-12, fsh 2260 ft. Johnston & Adam's Southern Lumber 1, 12-12-12, rig. Magnolia Pet. Co.'s Arkansas Timber 1, 35-15-11, dr 3360 ft. McMurray et al's Southern Lumber 1, 7-15-11, sd 3275 ft. Phillips Pet. Co.'s Southern Lumber 1, 36-11-12, rebuilt dk 3187 ft.

COLUMBIA COUNTY—Gulf Ref. Co.'s Huggins 1, 31-17-22, dr 2785 ft. Haynes et al's Runyon 1, 3-16-21, rig. Ky-Ark Pet. Co.'s Doss 1, 29-19-20, sd 2600 ft. Magnolia Pet. Co.'s Sawyer 2, 1-16-20, dr 2350 ft. Pluto Oil Co.'s Dickens 1, 20-19-22, dk. Scott Phillips' Davis 1, 6-18-20, sd 2145 ft.

DREW COUNTY—McClintock et al's Ogle 1, 35-13-5, sd 2550 ft.

GRANT COUNTY—Jones & Watkins' Meek 1, 5-4-11, rig.

HEMPSTEAD COUNTY—Myers et al's Nicholls 1, 17-11-25, sdtr 2260 ft.

LA FAYETTE COUNTY—Ken-Saw Pet. Co.'s Red River 2, 3-20-24, sw 2840 ft.

LITTLE RIVER COUNTY—Greeson et al's Waldrip 1, 4-13-21, sd 1740 ft. Grote et al's Allen 1, 2-13-29, to test again 2941 ft. Johnson et al's Hawkins 1, 10-11-21, sd 2118 ft.

MILLER COUNTY—Lenze et al's Dale 2, 28-15-26, dr 1190 ft.

NEVADA COUNTY—Furen et al's Fuller 1, 6-13-21, sd 1200 ft. Humble Oil & Ref. Co.'s Bodcau 4, 9-15-22, dr 3345 ft. Prescott Oil Corp.'s Adams 1, 11-12-20, dr 135 ft.

OUACHITA COUNTY—Grayson et al's Reynolds 1, 21-14-17, dk. Phillips Pet. Co.'s Gregory 1, 5-14-17, rig. Seagraves & Moody's Moline Timber 1, 8-11-17, dr 50 ft. A. M. & B. Sutton's School Lot 2, 28-15-16, set 6⅝-inch 2577 ft. Van Diver et al's Yarbrough 2, 22-14-17, dr 600 ft.

UNION COUNTY—Allison et al's Howard 1, 8-19-13, sd 15 ft. Belmont et al's Hollis 1, 15-18-15, coring 2830 ft. Bondurant et al's Garner 1, 8-18-12, sd 2430 ft. Calgo Oil Co.'s Primm 1, 9-18-17, set 8¼-inch 2803 ft. Grimes & Jones' Van Hook 1, 8-18-14, wosr 2254 ft. Gulf Ref. Co.'s Slaughter A-1, 20-17-16, dr 3005 ft. H. L. Hunt's Dykes 1, 21-18-12, sd 2970 ft. Imperial O. & G. Co.'s Goodwin 1, 26-17-16, r/u to deepen 3118 ft. E. M. Jone's Murphy 9, 17-16-15, dr 4040 ft. Marine Oil Co.'s Thompson 1, 10-18-13, 25 mcf gas and sw 2532 ft. Mathews et al's Lewis 1, 14-19-12, sd 2684 ft. Mullen Trust's Hill 1, 10-18-16, r 2750 ft. Peer Oil Corp.'s Hollis 1, 36-18-12, coring 2680 ft. Simms Oil Co.'s Simmons 1, 9-18-13, 25 mcf gas 3000 bbls sw, shut in, 2520 ft. Southern Crude Oil Purch. Co.'s Jones 10, 3-16-15, 4¾-inch stuck 3425 ft; Hill 1, 5-18-13, pumped 10 bbls 22 gravity oil, 2525 ft. Superior Oil Co.'s Cordell 1, 5-18-13, set 8¼-inch 2505 ft. Wingfield et al's Morrison 1, 5-19-13, fsh 1480 ft.

Louisiana Wildcats

COMPLETIONS

Caldwell Parish—
Southern Crude Oil Purch. Co.'s Caldwell Lumber Co. A-5, 23-13-5e * 1504

Grant Parish—
W. R. Keever's Barrett 1, 19-9-1e.. * 1667

Red River Parish—
S. M. Cagle's Long Bell Lumber Co.'s 1, 5-13-9 ..... * 1313

Winn Parish—
Humble O. & R. Co.'s L. & A. Oil Co. 16, 29-10-2w ..... * 1505
Louisiana Pet. Co.'s (Hyde & Nelson's) Louisiana Central Lumber Co. 1, 16-13-1w ..... * 1760

DRILLING REPORTS

BIENVILLE PARISH—Kimbrough et al's Carygle 1, 27-15-8, dr 885 ft.

BOSSIER PARISH—Benton Synd's Bulkley 1, 9-20-13, sd 1594 ft. Bloomquist et al's

Jones 2, 23-18-11, dr 40 ft. Collins & Woodley's Roberson, 1, 22-23-12, et set 6-inch 3085 ft. Doern et al's Bolinger 1, 9-22-11, fsh 2684 ft. Oil Fields Gas Corp.'s Bolinger 2, 38-23-11, dr 2000 ft. Sligo Synd's Jeter 1, 24-17-12, rig. Tubbs et al 's Jacobs 1, 20-16-12, sd 50 ft.

CADDO PARISH—Ackerman et al's Payne 1, 35-23-16, rig. Dixie Oil Co.'s Jolley 1, 27-22-15, dr 4425 ft; Slattery 10, 27-21-15, fsh 3400 ft. Magnolia Pet. Co.'s Bradford 1, 24-21-15, fsh 4105 ft; Dillion 16, 24-21-15, dr 3710 ft. The Texas Co.'s C. M. L. 42, 23-21-15, wosr 3918 ft.

CATAHOULA PARISH—S. D. Hunter's Tensas Delta 1, 36-10-7e, dr 1185 ft. Lochnager O. & G. Co.'s Beazley 1, 26-9-6e, dk.

CALDWELL PARISH—Robbins et al's Beazley 1, 10-11-4e, sd 1020 ft. Victor Wenzel's Shaw 1, 22-14-4e, dr 1450 ft.

CLAIBORNE PARISH—Gilliland Oil Co.'s (Ramsey) Taylor B-10, 14-23-8, swabbing oil 4529 ft. Mitchell et al's Wilburn 1, 23-19-7, dk. Root Ref. Co.'s Cheatham 1, 19-22-6, dk. Triangle Drilling Co.'s Caskey 1, 7-19-5, dr 2250 ft; Keen 1, 7-19-5, sd 4662 ft. Underwood et al's Bullock 1, 2-20-7, dr 1060 ft.

DE SOTO PARISH—Clark & Melat's Billingsley 1, 12-11-16, dr 1805 ft. Craige & Montze's Riggs 1, 27-15-13, sd 1380 ft. Dixie Oil Co.'s Jenkins 1, 9-12-11, sd 4868 ft. Helm et al's Joyner 1, 28-12-11, dr 2350 ft. Magnolia Pet. Co.'s Mason 1, 28-12-11, dk. Snapp et al's Lanier 1, 7-11-11, dr 1580 ft.

EAST CARROLL PARISH—T. A. Snell's Nicholson 1, 25-20-12e, skidded over, dr 30 ft.

FRANKLIN PARISH—Arkansas Fuel Oil Co.'s Blue 1, 9-12-6e, fsh 1573 ft; Gilbert 1, 9-12-7e, dk. Harrell & Hall's Duncan 1, 20-13-7e, dr 40 ft. Roxana Pet. Co.'s Sanseman 1, 18-14-7e, dr 1520 ft. R. W. Williams' Elkhart-Lemon 1, 17-14-8, sd 2020 ft.

GRANT PARISH—Ayers et al's Blackshear 1, 6-9-1e, rig. Billeaud et al's Ball 1, 19-7-1e, dr 2070 ft. Humble O. & R. Co.'s L. & A. Oil Co. 11, 29-9n-2w, lcn. J. J. Long's Calhoun 1, 4-7-4-w, dr 1780 ft. Tunica Pet. Co.'s L. & A. Oil Co. 8, 11-8n-2w, coring 1705 ft; L & A. Oil Co. 10, 8-8-1w, dr 1830 ft; L. & A. Oil Co. 16, 5-8-2w, rig.

JACKSON PARISH—El Dorado Chief Oil Co.'s Jones 1, 3-14-4w, dr 2895 ft. Ferguson Trust's Martin 1, 3-15-1e, sd 2934 ft. Grigsby & Co.'s Adams 1, 22-17-4w, dr 2455 ft. Houseman et al 's Norton 1, 34-15-3w, sd 400 ft. Louisiana Pet. Co.'s Theus 2, 12-16-3w, dr 2720 ft. Raymond et al's Davis 1, 13-16-2e sd 50 ft.

NATCHITOCHES PARISH—Lawson et al's Clark-Morse 1, 23-5-6w, rig. McCormick et al's Russell 1, 41-10-7, dr 2260 ft. Ohio Oil Co.'s L. & A. 1, 23-13-6w, dr 1505 ft. Three League Oil Co.'s Long 1, 34-10-7w, rig.

OUACHITA PARISH — Gulf Ref. Co.'s West Virginia O. & G. Co. 1, 17-17-5e, dr 2460 ft. Ouachita N. G. & O. Co.'s D'Abonne 2, 25-19-2e, r 2920 ft.

RAPIDES PARISH—Hincy & Mack's Barrow 1, 29-5-2e, sd 2800 ft. Minnesota Oil Co.'s Wattermark 1, 7-5-3w, sd 600 ft. Libuse O. & G. Co.'s Voda 1, 12-4-1e, dr 2550 ft.

RED RIVER PARISH—S. M. Cagle's Long Bell 2, 8-13-9, rig. The Texas Co.'s Marsten 1, 16-14-11, dr 1885 ft.

RICHLAND PARISH—Aarnes et al's Hawley 1, 3-18-9e, sd 50 ft. Gulf Ref. Co.'s England 1, 32-17-6e, lubricating, 2340 ft. Oliver et al's Hatch 1, 2-15-5e, fresh water, 420 ft.

SABINE PARISH—Arkansas Fuel Oil Co.'s Logan 1, 23-10-12, rig. Emlet et al's Bowman-Hicks 5, 8-7-12, sd 4070 ft; Bowman-Hicks 7, 11-7-14, dr 2185 ft; Sabine Lumber Co. 1, 8-7-1e, dk. Godchaux et al's Mills 1, 12-4-1e, sd 2504 ft. Magnolia Pet. Co.'s Louisiana Long Leaf 1, 16-6-11, dr 2715 ft. Lewis Pet. Co.'s (Reliance) Wyatt 1, 23-5-12, dr 1610 ft.

UNION PARISH—Camette et al's Tugwell 1, 21-22-1e, dk. Ohio Oil Co.'s Hendricks 1, 30-19-1e, rig. Rhodes et al's Futch 1, 28-23-2w, rig.

WEBSTER PARISH — J. R. Garrison's Hudson 1, 17-19-10, dr 385 ft. Labore et al's Bruner 1, 30-19-10, sd 537 ft. Ohio Oil Co.'s Bank of Cotton Valley 4, 22-21-10, dr 3935 ft. Smitherman & McDonald's Oakley 1, 29-23-11, dr 5120 ft. Southern Crude Oil Purch. Co.'s Munn-Wadley 1, 1-22-10, sdtr 4500 ft.

WINN PARISH—Dodge et al's Tremont 1, 35-13-3w, dr 620 ft. Greer et al's Bodcau 1, 9-11-4w, dr 1340 ft. J. C. Long's Milam 1, 26-13-3w, dr 875 ft. Ohio Oil Co.'s Edenborne 1, 4-12-1w, dr 3230 ft.

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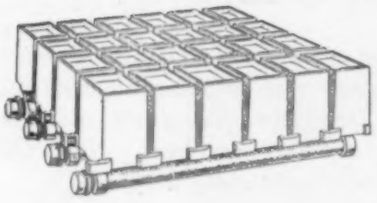

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Southern California Wildcats

COMPLETIONS

Bixby Hills—
National Security's No. 1..... * 5151

Newhall-Saugus—
Union Oil Co.'s Saugus 1..... * 2700

DRILLING REPORT

ATHENS-WEST—Julian Pet. Corp.'s Mosier 1, 4200 ft.

BANDINI—Pan-American Pet. Co.'s Bandani, dr 3155 ft.

BELLFLOWER—Calpetro Producers Synd.'s No. 1, sd 4420 ft; No. 2, sd 4474 ft.

BURBANK—Jeffries-Overton's No. 1, sd 1300 ft.

BIXBY HILLS—Orange County Pet. Co.'s No. 1, sd 2820 ft.

CLEARWATER—Clearwater Pet. Co.'s well, dr 1400 ft.

CLAREMONT—Claremont Oil & Gas' Hamilton 1, r 1090 ft.

DOMINGUEZ — Dominguez Extension Oil Co.'s R. B. 1, dr 3455 ft.

EAGLE ROCK — Calwin Oil Co.'s Eagle Rock 1, dr 6105 ft.

EL SEGUNDO—Southern California Drilling Co.'s Matteson, dr 3182 ft.

HAWTHORNE—Winwell Oil Co.'s Dome 1, preparing to dr 5586 ft.

IRVINE—Calny Oil Co.'s Irvine 1, sd 4247 ft.

LAWNDALE—Smith Pet. Co.'s Johnson 1, dr 5635 ft.

LANCASTER—Rudd-Assmussen's No. 1, sd 1860 ft.

LONG BEACH—Miller-Haley's Extension 1, sd 4865 ft.

MANHATTAN—Manhattan-Pacific Oil Co.'s No. 1, sd 4409 ft.

MAYWOOD—Magnolia Pet. Synd.'s Tweedy 1, sd 2700 ft.

NEWHALL-SAUGUS— Geo. W. Johnson's Wickham 1, waiting on water. W. W. Stabler's Castaic 1, fsh 3070 ft. Temple-Lefevre's Castaic 1, sd 2107 ft.

PACIONA—W. O. Brubaker's Fernando 1, fsh 2698 ft.

PLAYA DEL REY—Milham Exploration Co.'s No. 2, sidetracking pipe 5980 ft.

RESEDA—Pan-American Pet. Co.'s Sesmon 1, dr 5200 ft.

SPADRA—Spadra Oil Co.'s Northey 1, sd 505 ft.

SAN FERNANDO—Standard Oil Co.'s University 1, dr 5100 ft.

SAN JOSE HILLS—D. & B. Oil Co.'s Amar 1, dr 3400 ft. Bardeen Oil Co.'s Didier 3, sd 1938 ft.

SAN JUAN CAPISTRANO—California Pet. Dev. Co.'s Spitz 1, sd 3000 ft.

SUNSET BEACH—General Pet. Corp.'s Limita 1, rigging rotary.

TOPANGO CANYON—Standard Oil Co.'s Austin 1, testing cas 1795 ft.

VAN NUYS—Van Nuys Community Co.'s No. 1, sd 3860 ft.

RIVERSIDE COUNTY—Corona Oil & Gas Test's No. 1, sd 1550 ft. Spindletop Oil Synd.'s No. 1, sd 2590 ft. Trabuco Oil Co.'s No. 1, sd 1830 ft.

SAN BERNARDINO COUNTY — Arrowhead Development's No. 1, sd 1600 ft. Burgess-Goodle-Riggins 1, sd 4110 ft. Como Oil Co.'s Cajon, sd 1380 ft. Colton Terrace Colton's No. 1, dr 1160 ft. Del Rosa Oil Co.'s No. 1, sd 2460 ft. H. & P. Oil Co.'s No. 1, sd 2030 ft. Hesperia Oil & Gas' No. 1A, dr 3320 ft. Mahala Oil & Gas Co.'s No. 2, sd 4080 ft. Victor Valley Landowners' No. 1, sd 1740 ft. Wade-Bourne-Aldhal's No. 1, dr 650 ft. Western Pacific Oil Co.'s well, dr 2100 ft.

SAN DIEGO CO.—Cardiff Oil Corp.'s No. 1, dr 1450 ft. Oceanside Oil Co.'s No. 1, temp sd, 3210 ft. Torrey Pines Oil Co.'s No. 1, dr 250 ft. Mission Valley Enterprise's No. 1, sd 5385 ft. Oberbaugh & Choates' No. 1, sd 1238 ft. San Diego-Imperial's No. 1, sd 2425 ft.

Northern California Wildcats

COMPLETIONS

Sunset District—
Bell-Wrightsman's No. 1 ..... 5 5335

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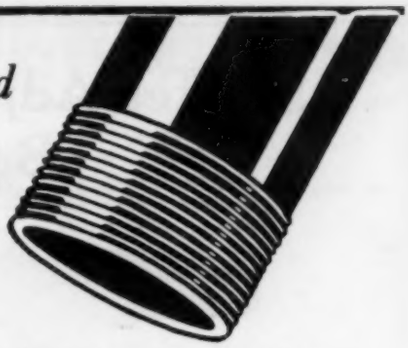

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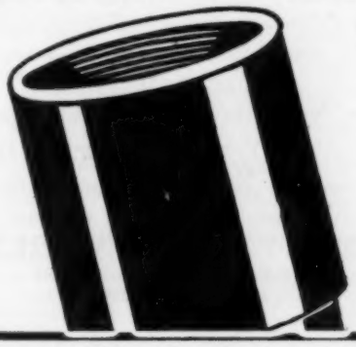

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Eliminates Foot Valve Troubles

No gaskets are used—no joints to rust-out, blow-out or break-out, therefore will not leak. Full-opening waterway with area larger than the pipe, resulting in very little friction. One piece valve body making it possible to use the valve without strainer when necessary. No lugs to hang up in well or sump. Fool-proof, trouble-proof and leak-proof—100% superior to the old type.

Ask your Supply Dealer for the Kuehne Hinge-Type, Full-Opening Foot Valve, or write us for descriptive matter and name of nearest dealer.

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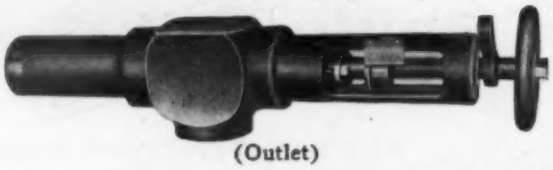

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CONTROLS pressure and rate of flow to any desired degree, by simply turning a hand wheel. Made entirely of forged or rolled steel. Orifice and needle point hardened to resist abrasion.

ADVANTAGES

1. Orifice is set to correct size opening without breaking the flow of oil or gas.
2. Tapered orifice gives greater and smoother flow for given size opening.
3. Has gauge by which the size of the orifice can be quickly ascertained.

DIRECTIONS

Connect up so that flow is towards valve tip.

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DRILLING REPORT

KERN COUNTY

ANTELOPE PLAINS—W. H. Davis' No. 1, dr 1500 ft.

BUTTONWILLOW — Milham Exploration Co.'s Kern 1A, bldg rig.

DEVILS DEN—Devils Den Prod. Co.'s No. 5, rep 875 ft. Marathon Oil Co.'s No. 1, co 3290 ft. Robbins Oil Co.'s No. 1, dr 2210 ft.

FAMOSA—Woodward & Sheedy's Famosa dr 3665 ft.

GOULD HILLS — Mendocino-Midway's No. 1, dr 2536 ft. L. E. Westrich's No. 1, dr 940 ft.

SHALE HILLS — Huntington-Hawthorne's No. 1, rigging. Oildale Oil Co.'s No. 1, rig.

TEMBLOR HILLS—Fortuna Oil Co.'s No. 1, trying to locate water 2070 ft. Hagar-Denniston's No. 1, rig. Painted Hills Co.'s No. 1, sd 500 ft. Hovey Hills Oil Co.'s No. 1, sd 2510 ft.

WASCO—Main Oil Co.'s No. 1, fsh 3304 ft.

EASTERN KERN CO.—Crusaders Oil Co.'s No. 1, fsh 2282 ft. Bruce-Mackey's No. 1, dr 1000 ft.

NORTH EXTENSION LOST HILLS—South Dome Oil Co.'s No. 1, fsh 1650 ft.

McKITTRICK—Abbott Pet. Co.'s No. 1, sd 1420 ft. Lacy-Esper Pet. Co.'s No. 1, sd 3275 ft. Ridge Oil Co.'s No. 1, co 3075 ft.

SUNSET DISTRCT — Fresno-Sunmaid Co.'s No. 1, sd 4200 ft. Gore Oil Co.'s No. 1, sd 2100 ft. Shell Co.'s No. 1, sd 4826 ft.

FRESNO COUNTY

CLOVIS—Fresno-Madera Oil Co.'s No. 1, sd 3760 ft. W. W. Taylor's No. 1, dr 1770 ft.

HURON—Associated Oil Co.'s No. 1, fsh 2060 ft.

KERMAN—Associated Oil Co.'s No. 1, dr 720 ft.

RAISIN CITY—Fresno-United Co.'s No. 3, sd 3490 ft.

WARTHAM—Bald Mountain Drilling Co.'s No. 1, dr 955 ft.

KINGS COUNTY

KETTLEMAN—Bolsa Chica Oil Co.'s No. 1, sd cmt 2360 ft. General Pet. Co.'s No. 1, rig. Hugh McPhail's No. 1, dr 1972 ft. South Coalinga Co.'s No. 1, dr 1660 ft.

VENTURA COUNTY

CAMARILLO—Standard Oil Co.'s Camarillo 1, r 3963 ft.

CASITAS-OJAI — Miley Exploration Co.'s Casitas 2, rigging rotary 623 ft.

HOPPER CANYON—Bishop-Buckeye's Union 2, rigging rotary. Hooper Canyon Oil Co.'s No. 1, sd 5000 ft.

MOORPARK-SIMI — Shell Co.'s Berlywood 1, fsh 6667 ft. E. A. Parkford's Simi-Lloyd, dr 1470 ft.

MONTALVO—Standard Oil Co.'s No. 1, dr 667 ft.

RINCON—Montecito Oil Prod. Co.'s No. 1, trying to locate water 3200 ft.

WHEELER CANYON—Wheeler Canyon Oil Co.'s No. 16, sd 4520 ft.

SESPE-FILLMORE—Sespe Oil Co.'s Smith 2, sd 4003 ft. Sentinel Oil Co.'s Flats 1, sd 540 ft.

VENTURA DISTRICT — Chanslor-Canfield-Midway's Hobson 1, re-dr 5855 ft. Associated Oil Co.'s V. L. & W. Co. 1, dr 5201 ft. Milham Exploration Co.'s Sexton 1, dr 6576 ft. Rio Grande Oil Co.'s Canet 1, sd 3615 ft. Star Pet. Co.'s Canet 1, sd cmt 650 ft.

SANTA BARBARA CO.—Summerland Oil Co.'s Becker 1, testing 2500 ft. Standard Oil Co.'s Palmer Union 1, dr 4500 ft.

SAN LUIS OBISPO—Arroyo Grande Pet. Co.'s No. 1, dr 3965 ft. Barneyberg Oil Corp.'s No. 1, sd 4500 ft. Walkin Pet. Co.'s No. 1, sidetracking dr pipe 2450 ft.

MONTEREY COUNTY — Harriman-Jones' No. 1, plan to reorganize, dr 4616 ft. Hennigan-Schwennigan's No. 1, prep to abn 3715 ft. Pan-American Pet. Co.'s No. 1, dr 2900 ft. Pyramid Oil Producers' No. 1, dr 3110 ft.

TULARE COUNTY—Ducor Drilling Co.'s No. 1, cmt 4161 ft. Federal Exploration Co.'s No. 1, dr 4400 ft. Josephine E. Neame's No. 1, dr 2026 ft. Martin Pet. Co.'s No. 1, sd 1670 ft. Ozena Oil Co.'s No. 1, dr 970 ft. Wm. C. Resser's No. 1, dr 1500 ft.

SONOMA COUNTY—Shell Co.'s No. 1, dr 3336 ft.

PERMITS GRANTED FOR NEW WELLS

Weekly Comparison of New Wells

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas and California:

	Mar. 1926	Apr. 1926	May 1926	June 1926	July 1926	Aug. 1926	Sept. 1926	Oct. 1926	Nov. 6	Nov. 13	Nov. 20	Nov. 27
Arkansas	106	124	103	100	107	65	62	57	9	10	5	11
California	116	135	79	69	80	103	106	118	34	25	23	23
Louisiana	145	150	109	107	141	93	113	115	20	20	24	9
Kansas	160	170	156	161	143	119	124	148	46	34	29	45
Oklahoma	419	593	471	411	522	396	398	431	131	117	88	134
Texas	817	1070	941	1168	1468	1073	1021	1312	282	201	211	264
Mountain States	...	...	113	124	108	106	101	93	22	16	35	11
Total	1763	2242	1972	2149	2569	1955	1905	2274	544	423	415	497

CALIFORNIA

Brea-Olinda—Brea Canyon Oil Co.'s No. 41, 2-3-10.

Coalinga—Zier Oil Co.'s N-6, 1-20-14.

Coyote Hills—Gaston A. Bastanchury's No. 1, 30-3-10.

Huntington Beach—Dell Oil Synd.'s No. 2, Behr, 10-6-11. W. A. Higgins' No. 1, 10-6-11. Julian Pet. Corp.'s Bogan 1, 10-6-11; Lambert 3, 10-6-11. Richardson Oil Co.'s No. 9, 10-6-11. Transport Oil Co.'s No. 16, 10-6-11. H. L. Whiston's Geick 1, 10-6-11. White-Smithson Trust's Schroeter 1, 10-6-11.

Kern County — Milham Exploration Co.'s Kern 1-A, 8-28-23.

Kern River—Geo. F. Getty's Inc.'s Tegeler 1, 22-28-27. Barnsdall Oil Co.'s No. 1, 32-27-28.

Long Beach—California Pet. Corp.'s Harlow Kent 8, 19-4-12.

Midway—Gralan Oil Co.'s No. 6, 4-32-23, Midland Oilfields Co. Ltd.'s Thornber 8, 34-31-24. North American Oil Cons.' No. 15, 28-31-23; No. 18, 28-31-23.

Richfield—Union Oil Co.'s Thompson & Goodwin 8, 28-3-9.

Rosecrans—L. F. Bassett & Blaine White's No. 1, 7-3-13. General Pet. Corp.'s Vaughn 5, 18-3-13.

Torrance—C. C. M. O. Co.'s Del Amo 65, 16-4-14.

MOUNTAIN STATES

NEW MEXICO

Empire Gas & Fuel Co.'s No. 3, NE¼ 2-18-27. Steinberger Co.'s No. 1, NE¼ 21-3n-35e.

MONTANA

California Petroleum Co.'s No. 7, SE¼ 27-35-2; No. 10, SE¼ 27-35-2. Tecumseh Oil Co.'s No. 4, SW¼ 32-35-1. Arcus Oil Co.'s No. 4, SW¼ 19-35-1. Sunburst Oil Co.'s No. 1, NW¼ 15-32-1. Hill Oil Co.'s No. 11, SW¼ 22-35-2; No. 3, SW¼ 21-35-2. Carter Oil Co.'s No. 3, NW¼ 10-35-2. Rice Oil Co.'s No. 3, SW¼ 30-35-1.

KANSAS

Butler County—Empire Gas & Fuel Co., No. 1 Young, owd, in the northwest corner of the southeast of the northwest of 27-26-7e; No. 4 Worrell, in the northeast corner of the northwest of the southeast of 12-27-7e. Tidal Oil Company No. 1 Worrell, in the northwest corner of the northeast of the southeast of 12-27-7e. Phillips Petroleum Company and others No. 4 P. Seward, in the southeast corner of the northwest of the northwest of 13-27-7e. Mid-Kansas Oil & Gas Company No. 4 Blakeman, in the northeast corner of the southeast of the southwest of 3-28-6e; No. 5 Blakeman, in the southwest corner of the southeast of the southwest of 3-28-6e. Abel, Finney and others No. 1 Morti, in the southwest corner of the northwest of the northeast of 18-28-7e.

Chase County—Emipre Gas & Fuel Company No. 4 Lipps, in the center of the west half of the southwest of the southeast of 25-18-6e; No. 5 Lipps, in the center of the southwest of the northeast of 25-18-6e. Klein and others No. 1 Crawford, in the northeast corner of the northwest of the southeast of 33-18-7e. Empire Gas & Fuel Company No. 1 Caman, in the southwest corner of the northeast of the northwest of 15-21-9e. Barnsdall Oil Corporation No. 1 Stotler, in the southeast corner of the northeast of 25-21-9e; No. 2 Stotler, in the northeast corner of the southeast of the northeast of 25-21-9e. Pryor, Lockhart and others No. 2 Crosby, in the southeast corner of the northeast of the southwest of 23-22-9e.

Cowley County—Roxana Petroleum Corporation No. 1 Nave, in the southeast corner of 20-30-3e; No. 1 Carlson, in the southwest corner of 21-30-3e; No. 1 Beard, in the northeast corner of 29-30-3e. Trees Oil & Gas Company No. 1 Dickson, in the southwest corner of the northeast of 20-30-4e. Pyne and Hellmick No. 1 Ward, in the southwest corner of the southeast of the southeast of 24-30-6e. The Texas Company No. 13 Eastman, in the center of the north line of the southwest of the northwest of the northeast of 6-31-6. Minnehoma Oil & Gas Company No. 1 Denton, in the southeast corner of 4-31-8e. Marland Oil Company No. 2 School land in the center of the south line of the southeast of 15-32-4e; No. 1 Bestal, in the southwest corner of the northeast of 19-34-3e. Dickey and others No. 1 Eaton, in the southwest corner of the southeast of 3-35-4e.

Greenwood County—Empire Gas & Fuel Co., No. 10 Hind, in the center of the south line of the northeast of the northeast of the southwest of 11-22-11e; No. 3 Gravett, in the southwest corner of the northeast of the northeast of 14-22-11; No. 9 Duby, in the northwest corner of 23-22-11e. Superior Oil Company No. 2 Swanson, in the southwest corner of the northwest of 10-22-12e. Skelly Oil Company No. 3 Skelly-Teeter, in the northeast corner of the northwest of the southeast of 15-23-9e. Troxell and others No. 1 Edwards, in the southeast corner of the northwest of 35-23-10e. Mid-Continent Petroleum Corporation No. 2 Ellis, in the center of the west line of the southeast of the southwest of the northwest of 26-23-11e. Spencer, Chambers and others No. 1 Bigler, in the southeast corner of the northeast of 26-23-12e. Theta Oil Company No. 4 Rockhill, in the northwest corner of the northeast of the northwest of 31-24-11e. Empire Gas & Fuel Company No. 3 Riley, in the northwest corner of the northeast of the southwest of 7-27-9e.

Marion County—Skow Brothers and others No. 1 Vinguska, in the center of the northeast of the northeast of 23-18-3e. Sheedy and others No. 1 Drummond in the northeast corner of the southeast of the southwest of 26-20-5e. National Refining Company No. 15 Reamey, in the northeast corner of the northwest of the southeast of 17-21-4e. Youker and others No. 1 Waner, in the northeast corner of the southwest of 17-21-4e.

Rice County—The Prairie Oil & Gas Company No. 1 Miller, in the northwest corner of the southwest of 35-20-6w.

Sumner County—Champlin Refining Company No. 1 Wheeler, in the southwest corner of the southeast of 4-30-1w; No. 1 La Force, in the southeast corner of the southwest of 9-30-1w. Roxana Petroleum Corp., No. 2 Weinrick, in the southwest corner of the northeast of 36-31-2e. Ray Otstot and others No. 1 Volker, in the northwest corner of the northeast of 9-35-1e.

OKLAHOMA

Caddo County—Briscoe and Hall No. 1 Holland, in the southwest corner of the southeast of the southeast of 2-5n-9w.

Carter County—Magnolia Petroleum Co., No. 1 H. Peck, in the southeast corner of the northwest of the southwest of 2-1s-3w; No. 3, E. Hardin, in the southeast corner of the southwest of 18-1s-3w; No. 2 Ida Bumpass in the northeast corner of the northwest of the southeast of 33-1s-3w; No. 6 Adams, in the southwest corner of the southeast of the southeast of 3-2s-3w. Simpson and Fell No. 1 Hales, in the northwest corner of 11-2s-3w. Roxana Pet. Corp., No. 5 Caughman, in the southeast corner of 7-2s-2w. Magnolia Petroleum Company No. 3 G. Cox, in the northwest corner of the southeast of the northeast of 16-2s-2w; No. 4 May Cox, in the southwest corner of the northeast of the southeast of 16-2s-2w; No. 1 Simpson, in the northwest corner of the northeast of the northwest of 33-4s-1w. Roxana Petroleum Corporation No. 1 Frazier, in the southwest corner of the northeast of 2-5s-3w. Amerada Petroleum Corporation No. 4 J. Baptiste, in the northeast corner of the northwest of the northeast of 29-5s-1e.

Comanche County—Westheimer and Daube No. 1 Cox, in the southwest corner of the southeast of the southeast of 13-2n-10w; No. 3 Watson, in the northeast corner of 24-2n-10w.

Creek County—Gled Oil Company No. 6 W. Ross, in the northwest corner of the southwest of the northwest of the southwest of 13-19-8e. Devonian Oil Company No. 5 Miller, in the center of the southeast of the northeast of 14-19-8e. Love and Wolf No. 1 Gooden, in the southwest corner of the northeast of the northwest of 16-17-8e. Magnolia Petroleum Company No. 2 Sarhilla, in the northwest corner of the southwest of the northwest of 26-17-8e. Pure Oil Company No. 2 Mitchell, in the southwest corner of the northwest of the northwest of 29-14-8e; No. 3 Mitchell, in the northwest corner of the southwest of the northwest of 29-14-8e; No. 5 Kernal, in the northeast corner of the southeast of the northeast of 30-14-8e. Redister Oil Company No. 3 Murrell, in the center of the north line of the southeast of the northwest of 17-19-9e. Bu-Vi-Bar Petroleum Corporation and Gypsy Oil Company No. 1 Brown, in the southeast corner of the northeast of the southwest of 4-18-10e. G. & M. Oil Company No. 1 Ring, in the northeast corner of the northwest of the southwest of 7-18-10e. Gypsy Oil Company No. 7 Richards, in the southeast corner of the northeast of the northwest of 1-18-11e, owd; No. 19 Richards, in the northeast corner of the southeast of the southeast of the northwest of 1-18-11e. Mid-Continent Petroleum Corporation No. 4 Bright, in the northeast corner of the southeast of the northwest of 1-18-11e. Riverland Oil Company No. 1 Tahladge, in the southwest corner of the northeast of the southwest of 3-18-11e. Thompson and Black and Roxana Petroleum Corp., No. 1-a Sapulpa, in the southwest corner of the northwest of the northeast of 33-18-11e. Independent Oil & Gas Company No. 2 Francis, in the northwest corner of the southeast of the southwest of 5-17-10e. J. H. Wright No. 15 Tahkaney, in the northwest corner of the northeast of the northwest of 24-17-10e. Jackson and Wise No. 1 Layton, in the southeast of the northwest of the northeast of 3-17-11e, owd. Atlantic Oil Producing Company and Phillips Petroleum Company No. 1 Alcorn, in the southeast corner of 19-14-9e. D. W.

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Franchot and others No. 1-a Harry, in the northwest corner of the north east of 9-14-10e. Atlantic Oil Producing Company No. 2 Bear, in the northeast corner of the northwest of the southeast of the northwest of 16-14-10e.

Garfield County—Sinclair Oil & Gas Comner of the southwest of the northeast of 13-22-pany No. 69 Walker (N) in the northeast cor-4w; No. 70 Walker (N), in the northeast corner of the southeast of the northwest of the northeast of 13-22-4w; No. 71 Walker (N), in the northwest corner of the southwest of the southeast of the northeast of 13-22-4w.

Garvin County—Day Oil Company No. 1 Russells, in the northeast corner of the southwest of the northeast of 22-1n-1e.

Grady County—Meridian Gas Company No. 2 Farwell "B" in the center of the northwest of the southwest of 24-5n-8w. Carter Oil Company No. 1 Gardenshire, in the northwest corner of 16-3n-5w; No. 2 Gardenshire, in the southeast corner of the northwest of the n orthwest of 16-3n-5w. Hamon and Cox No. 2 Smith, in the northeast corner of the southwest of the northwest of 16-3n-5w. Marland Oil company No. 2 Burke, in the southwest corner of the southeast of the northeast of 17-3n-5w. Carter Oil Company No. 2 Woods, in the southwest corner of the northeast of the northeast of 17-3n-5w; No. 5 Wham, in the southwest corner of the southeast of the northeast of 34-3n-5w; No. 6 Wham, in the southeast corner of the southwest of the northeast of 34-3n-5w; No. 7 Wham, in the northeast corner of the southeast of the northeast of 34-3n-5w; No. 1 White, in the northwest corner of the southeast of the southeast of 21-3n-5w. Critchlow and others No. 3 Adair, in the northeast corner of the southwest of the northwest of 27-3n-5w. Carter Oil Company No. 2 E. Nation, in the southeast corner of the northeast of the southeast of 34-3n-5w. W. R. McBride No. 1 Mitchell, owd, in the northeast corner of the southwest of 34-3n-5w. Carter Oil Company No. 1 Cochran, in the southwest corner of the northwest of the northwest of 35-3n-5w.

Hughes County—Roxana Petroleum Corp., No. 1 Powell "B", iln the northwest corner of the northeast of the northeast of 35-9n-9e. Dixie Oil Company No. 1 Diamond "B", owd' in the northwest corner of the northeast of the southeast of 18-8n-10e.

Jefferson County—Carter Oil Company No. 1 Gibson, in the center of the northwest of the northwest of 4-6s-5w.

Kay County—The Texas Company No. 6 Day, in the northeast corner of the southeast of the southeast of the northeast, twin, of 20-29-1w. Comar Oil Company No. 11-W, Buell, in the southeast corner of the northwest of the northeast of 21-29-1w. Carter Oil Company No. 1 E. Nixon, in the southeast corner of the southwest of the northeast of 17-29-1e.

McIntosh County—Tiger Mountain Oil Company No. 7 L. Stand, in the center of the northwest of the northwest of 16-11-14e.

Muskogee County—J. A. Hull No. 1 Jefferson, in the northeast corner of the southeast of 32-15-15e. Link Oil Company No. 1 W. Austin, in the southeast corner of the northeast of 32-15-15e. Future Development Company and others No. 1 M. Jefferson, in the northwest corner of the southwest of 33-15-15e. J. M. Folty No. 1-a S. Meagher, in the northeast corner of the southwest of 32-15-15e. Jolly-Ogg Oil Company No. 5 J. F. Meagher, in the southeast corner of the southwest of the northeast of 32-15-18e; No. 4 G. Holden, in the southeast corner of the northeast of the northwest of 9-14-18e.

Okfuskee County — Champlin Refining Company No. 2 J. Holmes, in the northeast corner of the southeast of the northeast of 22-11-11e. Riverland Oil Company No. 1 Holmes, owd, in the northeast corner of the northwest of the northwest of 30-11-11e.

Okmulgee County—W. N. Harsha and others No. 1 Bruner, in the northeast corner of the southeast of the northwest of 34-16-14e. Le Bean and others No. 3 Bruner, owd, in the northeast corner of the northwest of the southwest of 23-15-11e. Moffatt and others No. 6 Hawkins, owd, in the center of the southeast of 6-11-12e. W. B. Pine No. 2 J. Sells, in the northwest corner of the southwest of the northwest of the northwest of 10-15-14e. W. M. Hewitt No. 10 L Sutton, in the center of the southeast of the northwest of 33-14-14e; Cumberland Petroleum Company No. 6 T. Dunn, in the southwest corner of the northeast of the southwest of 21-13-14e. Tiger Mountain Oil

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JAMES H. GARDNER, President

505 Exchange Bank Building

Tulsa, Oklahoma

Company No. 2 L. Starr, in the southwest corner of the northwest of the northwest of 3-11-13e.

Osage County—T. O. Lillystrand No. 1, in the northeast corner of the northwest of the northwest of 19-29-12e. Winona Oil Company No. 2, in the center of the north line of the northwest of 26-29-9e. Phillips Petroleum Company No. 3 in the southwest corner of the southeast of the southeast of 1-27-5e. Carter Oil Company No. 3, in the northeast corner of 33-27-6e. Phillips Petroleum Company No. 7 in the southwest corner of the southeast of the southeast of 7-27-6e. Kewanee Oil & Gas Company No. 3, in the southeast corner of the southwest of the southeast of 34-27-6e. Phillips Petroleum Company No. 5 in the northwest corner of the southwest of the southwest of 21-26-6e. Phillips Petroleum Company No 6, in the northeast corner of the southwest of the southwest of 21-26-6e. Knupp Oil Company No. 3, in the northeast corner of the southeast of the northwest of the northwest of 2-26-11e. Osage Gas Producing Company No. 374, in the northwest corner of the southwest of 5-27-11e. Tidal Osage Oil Company No. 1, in the center of the southline of the southwest of 34-23-9e. American Oil and Development Company No. 2 in the northeast corner of the southwest of 13-23-10e. Skelly Oil Company No. 1 in the southeast corner of the northwest of 16-21-9e.

Pawnee County—Josey Oil Company No. 3 Scott, in the southeast corner of the northwest of the northwest of 22-20-6e. Superior Oil Company No. 2 Gillespie, in the center of the southeast of the northeast of 9-20-7e.

Payne County—Indian Territory Illuminating Oil Company No. 1 school land, in the northeast corner of the southeast of 36-20-4e. Carr Oil Company No. 3 Garr, in the northwest corner of the southwest of the southwest of 9-19-5e. Cushing Gas & Refining Company No. 1 McFeathers in the northwest corner of the southeast of the southeast of 31-18-4e. Superior Oil Company No. 2 Parmela, in the southwest corner of the southwest of 31-18-4e.

Pontotoc County—American Oil & Refining Compnay No. 1 Wray, in the southeast corner of the northwest of the northwest of 34-5n-6e.

Pottawatomie County—Gypsy Oil Company No. 1 Bora, in the northeast corner of the northwest of the southeast of 16-9n-5e; No. 1 Earl, in the northeast corner of the northwest of 16-9n-5e No. 2 School Land in the northwest corner of the northeast of 16-9n-5e; No. 3 School Land, in the southeast corner of the northwest of the northeast of 16-9n-5e; No. 4 School Land, in the northeast corner of the southwest of the northeast of 16-9n-5e; No. 5 School Land in the southeast corner of the southwest of the northeast of 16-9n-5e.

Seminole County—The Prairie Oil & Gas Company No. 1 A. O. Baker, in the southwest corner of the northeast of 24-9n-5e. Barnsdall Oil Corporation and Mid-Continent Petroleum Corporation No. 9 Williams, in the southeast of the northeast of the southwest of 33-11-8e. Sinclair Oil & Gas Company No. 12 Pierce, in the center of the west line of the southeast of the southeast of 33-11-8e. Foster Investment Company No. 2, owd, in the northeast corner of the southeast of 2-10-9e. Amerada Petroleum Corporation No. 2 Anderson, in the southwest corner of the northwest of the northwest of 15-9n-5e; No. 3 Anderson, in the northwest corner of the southwest of the northwest of 15-9n-5e; No. 8 Anderson, in the southeast corner of the southwest of the northwest of 15-9n-5e. Barnsdall Oil Corporation No. 1 D. Smith, in the northeast corner of the northwest of 15-9n-5e; McGraw and Baughman No. 1 Anderson, in the northwest corner of the southwest of 15-9n-5e; No. 2 Anderson, in the northeast corner of the northwest of the southwest of 15-9n-5e. Roxana Petroleum Corporation No. 1 Anderson, in the northwest corner of the northeast of the southwest of 15-9n-5e. Gypsy Oil Company No. 2 McFarland, in the northeast corner of the southeast of the southwest of 9-9n-5e. Barnsdall Oil Corporation No. 1 S. Harjo, in the southeast corner of the northeast of the southwest of 10-9n-5e. Gypsy Oil Company No. 2 Peter, in the southeast corner of the southwest of the southwest of 10-9n-5e. Magnolia Petroleum Company No. 2 Lena, in the northwest corner of the southwest of the southeast of 10-9n-5e. Indian Territory Illuminating Oil Company No. 7 James, owd, in the northwest corner of the southwest of the southeast of 24-9n-6e. Tidal

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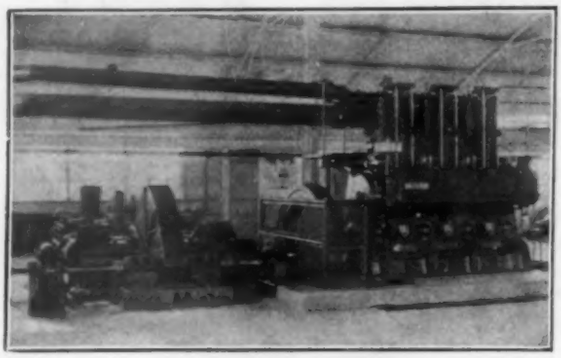

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Oil Company No. 5 Carter, in the southeast corner of the northwest of the southwest, twin, of 24-9n-6e; Tidal Oil Company No. 6 Carter, in the northeast corner of the northwest of the southwest of 24,9n-6e, twin. Magnolia Petroleum Company No. 2 Franks, in the southwest corner of 25-9n-6e. Turman Oil Company No. 2 L Jones, in the northeast corner of the southeast of the northeast of 34-9n-6e. T. B. Slick No. 1 R. Cudjo, in the northwest corner of the southeast of the southwest of 35-9n-6e; No. 1 Giblet, in the northwest corner of the northeast of the southeast of 35-9n-6e. Turman Oil Company No. 4 Cudjo, in the northeast corner of the northwest of the southwest of the northwest of 35-9n-6e.

Stephens County—Magnolia Petroleum Company No. 10 Dora Russell, in the northeast corner of the southeast of the southeast of 25-1s-9w; No. 11 Dora Russell, in the northwest corner of the southeast of the southeast of the southeast of 25-1s-9w. Ellis Drilling Company No. 7 Bridenthal, in the center of the south line of the southeast of the southeast of 19-1s-8w. Beard and Cobb No. 4 Skelly-Brigham, in the southwest corner of the northwest of the southwest of 30-1s-8w. Garvin Drilling Company No. 1 Massey, in the southwest corner of 30-1s-8w. Skelly Oil Company No. 1 Krebs, in the northeast corner of the southeast of the southeast of 13-1s-4w; No. 2 Krebs, in the southeast corner of 13-1s-4w.

Tillman County—A. M. Pearson No. 1 Mounte, in the southwest corner of 3-5s-15w.

Tulsa County—W. A. McCullough No. 1-a, Herrick, in the center of the west line of the southwest of the southeast of 34-17-13e.

LOUISIANA

Caddo Parish—Lewis Oil Corporation, 25 Broadway, New York, N. Y. D. H. Raines No. 16, 22-21n-15-w, 550 ft N and 200 ft W of SE cornor of NE¼. The Texas Company, Ricou-Brewster Bldg, Shreveport, W. E. Glassell No. 1, 14-20n-15w, 1120 ft and 200 ft E of SW corner of section; W. E. Glassell No. 2, 14-20n-15w, 1120 ft N and 1120 ft E of SW corner of section. Tholl Oil Company, 1011 San Jacinto Bldg., Beaumont, Texas Allday No. 1, 31-21-n-15w, 150 ft N and 150 ft W of SE corner of SW¼ of SE¼ of NW¼.

Calcasieu Parish—Standard Oil Co.mpany of Louisiana, P. O. Drawer 1739, Shreveport, Industrial Lumber Company No. 5, 19-9s-12w, 580 ft N and 595 ft E of SW corner of NE¼ of SE¼.

Franklin Parish—Robinson & Long, P. O. Box 1084, El Dorado, Ark., Baker No. 1, 3-15n-7e, 150 ft S and 150 ft E of NW corner of NW¼ of SW¼.

LaSalle Parish—H. L. Hunt, Inc., P. O. Box 1466, El Dorado, Ark., Urania No. 3, 2-9-n-1e, 250 ft N and 250 ft W of SE corner of NE¼ of SW¼.

Morehouse Parish—Herkness Carbon Company, care A. J. Flint, R. F. D. No. 3, Bastrop, Bowles No. 3, 17-20n-5e, 2340 ft N and 1020 ft E of SW corner of SE¼.

Ouachita Parish—Jordan Drilling Company, Monroe, Ouachita Ld. & Dev. Co. Co. No. 2, 18-n-4e, 2670 ft St and 19040 ft W of easterly corner of sections 12 and 17.

ARKANSAS

Bradley County—Johnston & Adams Southern Lumber Co. 1, 12-12-12, SWc SW¼ NE¼.

Nevada County—Prescott Oil Corp. Adams 1, 11-12-20, 200 ft N and W of SEc of section.

Ouachita County—Owenwood Oil Corp. Synder 12, 34-15-15, 800 ft N and 660 ft E of SWc of section. Phillips Pet. Company Gregory 1, 5-14-17, SEc of section. Seagraves & Moody Moline Timber Company 1, 8-11-17, R. U. Williams Gilbert 1, 7-15-19, 400 ft S and E of NWc NE¼ NW¼.

Union County—Gulf Ref. Co. *T. C. Murphy 13, 9-16-15, 1590 ft S and 1120 ft W of NEc of section. Imperial O. & G. Co. *Goodwin 1, 26-17-16, 150 ft N and W of SEc of section; Murphy 9, 9-16-15, 170 ft N and 150 ft E of center of section. Lion O. & R. Co. Lawton A-9, 10-16-15, 330 ft N and E of SWc SE¼ NW ¼. Magnolia Pet. Co. Childs 5, 8-16-16, NWc of NE¼ NE¼.

*Old wells to be deepened.

TEXAS

Report of drilling permits for week ending November 26, 1926. Lease or owner, acreage, well survey, distance to lease lines or well.

Archer County—Roxana Pet. Corp., South Bend, Abercrombie 1, S 2, SPRR sur, 150 ft to

THESE power heads are totally enclosed, self-lubricating, with gears operating immersed in a bath of oil, making a very quiet and smooth running power head.

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S and W lines; 10, S 2, 150 ft to N and 450 ft to E line. Pet. Prod. Co., Wichita Falls, Turbeville 11-A, R. Carson sur, B 171, 265 ft N of No. 9; 10, 150 ft to S and W lines. Tidal Oil Co., Ft. Worth, Turbeville 1, S 152, R. Carson sur, 150 ft to S and E lines; 3, B 172, R. Carson sur, 300 ft N of No. 2. Empire Gas & Fuel Co., Wichita Falls, J. R. Parkey 5, S 1, SPRR sur, 150 ft to S and W lines; J. J. Perkins 1, S 27, B 3, DCSL sur, 150 ft to S and E lines. Guy J. Brown, et al, City Nat. Bank Bldg., Wichita Falls, J. J. Perkins 1, B 16, DCSL sur, 450 ft to N and 660 ft to E lines. O'Donohoe-Gates Drilling Co., Wichita Falls, W. R. Pace 1, B 113, Harris sur, 150 ft to S and E lines. Consolidated Oil Co. of Texas, Wichita Falls, R. C. Kinder 1, S 63, B 5, Clark & Plumb sur, 422 ft to S and 150 ft to W line. Bridwell & Heydrick Oil Co., Wichita Falls, Abercrombie 4, S 2, SPRR sur, 150 ft to N and W line. D. F. McMahon, S. Madison Bldg., Tulsa, Okla., J. R. Coody 1, B 161, C. Lydings sur, 150 ft to N and W lines. G. R. Ridgeway, P.-S. Bldg., Wichita Falls, E. Palk 1, B 2, W. Palk sur, 150 ft to W and S lines. J. G. Rowe, Box 1634, Wichita Falls, A. E. & E. A. Jentsch 1, B 115, Club ranch sur, 150 ft to S and E lines. Golding & Cochran, Wichita Falls, H. O. Prideaux 4, J. Dorsey sur, 300 ft E of No. 3. Humble Oil & Ref. Co., Wichita Falls, H. B. Ray 1, B 2½ and 3, Harris sub., 150 ft to N and 392 ft to E line. Magnolia Pet. Co., Dallas, S. S. Hudson 8, S s-½, B 80, Harris sur, 300 ft W of No. 3. Schermerhorn Oil Co., Tulsa, Okla., Prideaux Bros. 3, S 1, Col. Tap sur, 300 ft W of No. 1. Gulf Prod. Co., Ft. Worth, Abercrombie "A" 3, S 2, SPRR sur, 150 ft to S and E lines.

Andrews County — Carter-Zwelfel, Federal Bldg., Ft. Worth, Cowden 1, S 18, B a-52, PCL sur, center of SE¼.

Angelina County—Abel Hansen, Rockland, East Texas Co. 2, J. Graham sur, 400 ft S of No. 1.

Atascosa County—Helvetia Oil Co., San Antonio, J. Wiemres 16, Duck sur, 270 ft to N and E lines.

Brown County—Gibson Oil Co., Massie Bldg., Amarillo, W. G. White 3, D. B. Vernon sur, 600 ft to N and 300 ft to E line; 4, 150 ft to W and 300 ft E of Hodges No. 1; 6, 160 ft to E and 300 ft W of Randem No. 1; L. J. Shore 1, C. J. Ryan sur, 300 ft to N and E lines; 2, 150 ft to S and E lines. E. M. Curry, Cross Cut, D. C. Wooldridge 10, RTRR sur, 256 ft S of No. 9; G. W. Pickett 4, G. Logan sur, 300 ft N of No. 2. Stout & Bradstreet, Cross Plains, W. A. Stout 5, S 155, B 2, W. B. Smith sur, 210 ft to N and 150 ft to W lines. 6, 450 ft to W and 830 ft to S line. Aaron Cohen, Maryland Trust Bldg., Baltimore, Md., J. W. Haynes 2, 300 ft S of No. 1. W. H. Hammon, Wichita Falls, A. J. McKnight 1, C. J. Carrier sur, 150 ft to W and 1350 ft to S lines; Boysen 6, S 7 and 8, ETRR sur, 300 ft NW of No. 5. C. O. Moore Oil Corp., Cross Plains, E. Hunter 1, B 636, Jer Day sur, 150 ft to N and E lines; 2, 150 ft to N and 450 ft to E line. W. V. Lester, Hall St., Dallas, M. E. Fry 14, S 621, J. Chandoin sur, 150 ft to S and 450 ft to E line. DeBusk Oil Co., Cleveland, Ohio, DeBusk 1, W. B. Travis sur, B 148, 750 ft to N and 150 ft to E line; 2, 660 ft to S and E lines. Humble Oil & Ref. Co., Box 400, Cisco, R. Hickman 6, T. Benson sur, 450 ft to N and 150 ft to E line. F. P. Hynes, Box 752, Brownwood, N. H. Perry 2, J. Van Winkle sur, 1061 ft to N and 1050 ft to W line. Magnolia Pet. Co., Dallas, M. E. Fry 7, J. Chambliss sur, 160 ft to E and S lines. B. D. Dozier et al, Cross Plains, J. T. Carson 1, ETRR sur, 150 ft to N and W lines. Harris-Hays Co., Okmulgee, Okla., B. S. Boysen 5, ETRR sur, 150 ft to N and 450 ft to E lines. The Texas Co., Ft. Worth, R. Hickman 9, T. Benson sur, S 783, 300 ft W of No. 8. Fred Morris, 2912 Lipscomb St., Ft. Worth, J. D. Smith 1, S 75, A. D. Neil sur, 200 ft to W and 220 ft to S line. Pandem Oil Corp., Box 42, Cisco, L. Westerman 7, N. B. Mitchell sur, 150 ft to N and E lines. B. X. O'Reilly, Box 801, Brownwood, J. H. Green 20, G. W. Huffman sur, 1000 ft W to U. Pet. Co. 300 ft E of well.

Bexar County—Dingman Oil Co., City Nat. Bank Bldg., W. A. Jones 1, J. M. Springer sur, 200 ft to NE and 675 ft to NW lines.

Bastrop County—J. S. Storey, Lockhart, J. T. and A. A. Storey 1, J. B. Cassidy sur, 150 ft to NW and SW lines.

Brazoria County—Roxana Pet. Corp., Dispatch Bldg., Houston, S. B. River Jameson 1, J. McNeel sur, S 8 degrees E 82.

Callahan County—Moutray Oil Co., Tihrd St., Abilene, Jack Flores 9, S 149, BBB&C sur, 300 ft N of No. 7; 4, 150 ft to S and W lines; 6, 337 ft S of No. 5; John Flores 7, 337 ft S of No. 6; Claude Flores 1, S 149, BBB&C sur, 155 ft to W and 150 ft to N lines; 2, 155 ft to W and 150 ft to S line. Cranfill & Reynolds, Box 607, Cisco, E. E. Henderson 8, B 73,

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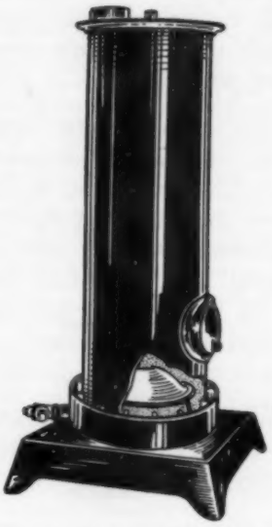

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Mebby So

White man comes makem rig up on hill and starts to dig.
Injun watchem white man toil—
Think heem driller heap big fool
Sets all day on a pine stool.
Toolie swingem heap big wrench
then goes sleep on greasy bench.
Nite time comes, no go to bed
nother outfit comes instead.
Never stoppem. Work like hell;
that's the way they drillem well.
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cashem check and go away.
Oil still flows in big steel tank,
Me gottem money in the bank,
Buy a car and come down road—turn out to let bridge go by, break him quick
Leave the dam thing in the crick.
Buy two more and mebby three,
one for squaw and two for me.
Buy papoose a pair of shoes,
spend what's left on wildcat booze.
Have good time but go to jail,
good friend comes and goesum bail.
Banker says my money gone, heap big fool—
Bye and bye some more come on.
That's the way the oil game goes.
White man getsum, Injun blowsem.
Me think driller heap dam fool,
sets all day on old pine stool.

Mebby So—but no driller has ever been made a fool of by a Shaffer Gauge Cock, they swear by them—not at them. Nowhere will you get more value for your money, get a set today at your supply store and save your cussing for something else that needs it—your Shaffer Gauges won't.
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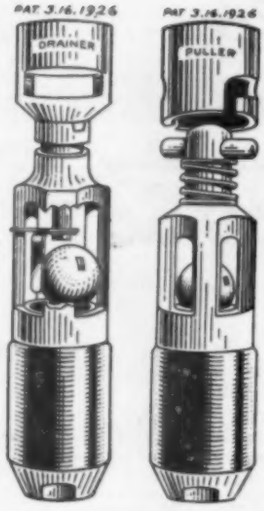

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Tulsa Office: 602 Wright Building

CCSL sur, 150 ft W of No. 1; 9, 150 ft S of No. 1; 10, 300 ft W of No. 4; 11, 185 ft S of No. 2; 12, 150 ft W of No. 3. W. R. Andrews, et al, Putnam, R. D. Williams 58, sur 2973, to deepen. Powers & Clifford, Dallas, R. D. Williams 20, F. E. Alvord sur, 160 ft to W and 700 ft to S lines. Mallory & Ellis, First State Bank Bldg., Baird, J. W. Tatum 2, S 18, BBB&C sur, F. Cook, 300 ft E of No. 1. J. A. Murphy, Mineral Wells, J. A. Murphy 2, 300 ft S of No. 1. Valley Oil Co., Wichita Falls, A. Hickman 18, S 148, BBB&C sur, 276 ft to N and 333 ft to E line. Hayes Oil Corp., Box 576, Cisco, Jackson 1, S 150, BBB&C sur. M. C. Dev. Co., Box 84, H. Wagley 1, TE&L sur, S 291, N½, 750 ft to W and 150 ft to S line. Phillips & Milan, Chelsea, Okla., J. M. Isenhower 10, S 2273 TE&L sur, 750 ft to E and 1300 ft to S line. W. S. Posey, Lubbock, M. E. Hudson 1, S 2, F. C. Cantonet 510 ft to N and 1575 ft to E line.

Coleman County—Amerada Pet. Corp., Box 746, Ft. Worth, J. W. Harris 105, J. Sanders sur, 482 ft N of No. 104; 106, S 7, J. Sanders sur, 440 ft W of No. 105; 107, 440 ft W of No. 106; 108, 440 ft W of No. 107; 109, 440 ft W of No. 108. S. Derbandt & Hazlewood, Rising Star, F. B. Colvins 1, B 168, 750 ft to E and 600 ft to S line. Barney Carter, Ranger, R. T. Goodson 1, S 23, T&NO sur, 1320 ft to N and 660 ft to E line. Milham Corp. of Texas, San Antonio, H. A. Halbert 1, S. J. Martin sur, 150 ft to N and E lines. World Oil Co., Ft. Worth, Witkoski 1, S 146, J. M. Day sur.

Clay County—Western Oil Corp. of Texas, Brown Bldg., Wichita Falls, Magnolia 2, S 32, B 4, PCSL sur, 300 ft E of No. 1; Wyatt 6, lot 35, B 25, PCSL sur, 150 ft to S and W lines; 7, lot 49, B 25, PCSL sur, 200 ft to N and 300 ft to E line; 5, lot 48, B 25, PCSL sur, 200 ft to N and 758 ft to W line; Magnolia 1, B 4, PCSL sur, 150 ft to S and W lines. Republic Prod. Co., San Angelo, (Carson County), Barnett 1, S 116, B 4, I&GN sur, 330 ft to S and E lines. Lone Star Gas Co., Dallas, M. L. Miller 13, B 59, PCSL sur, 1120 ft to S and 25 ft to E line.

Carson County—Delmar Oil Co., Bartlesville, Okla., T. D. Lewis 1, S 115, B 4, I&GN sur, 330 ft to S and W lines. The Texas Co., Wichita Falls, S. B. Burnett 9, S 127, B 5, I&GN sur, 440 ft to S and 330 ft to E line. Prairie Oil & Gas Co., Borger, E. F. Bryan 1, S 107, B 4, I&GN sur, 330 ft to S and W lines.

Crane County—Marland Oil Co. of Texas, Ft. Worth, E. S. Hughes D-3, S 88, B X, CCSD & RGNG sur, 1650 ft to S and 330 ft to W line; D-4, 330 ft to W and 990 ft to S line; D-5, 330 ft to N and 1650 ft to W line; Cowden Bros A-3, S 81, B X, 330 ft to W and 990 ft to S line. Zweifel-Hofmeir, et al, Waggoner Bldg., Ft. Worth, Cowden 1, S 16, B X, 330 ft to S and E lines.

Cooke County—J. R. Abernathy, 711 Burnett St., Wichita Falls, J. E. Dayton 1, F. Godley sur, 660 ft to S and 654 ft to E lines. Lynch, Stahl, Burress, Ardmore, Okla., H. B. Lueb 1, T. Jessup sur, 660 ft to N and W lines. American Ref. Co., Wichita Falls, J. A. Dennis 3, T. J. Moss sur, 300 ft N of No. 2.

Caldwell County—Magnolia Pet. Co., Dallas, C. Byrd 10, J. Henry sur, 150 ft to NE and SE lines; W. J. Miller 9, J. Henry sur, 300 ft N of No. 7.

Duval County—Cole Prod. Co., Laredo, M. Arispe 29, S 21, B 1, 50 ft to NW and 450 ft to SW line. Humble Oil & Ref. Co., Houston, A. L. Dilworth 1, Sur. 120, 1320 ft to N and W lines.

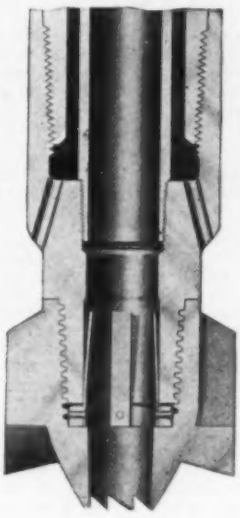
Eastland County—Livingstone & Wellman, Ft. Worth, C. J. Harrel 1, S 459, SPRR sur, 330 ft to S and W lines.

Fort Bend County—Gulf Prod. Co., Houston, B. Blakely 14, on N line B 5, 365 ft W of NE cor; W. Schenck 8, T. Habermaker sur, 775 ft S and 100 ft W of NE cor; Invincible 4, 2712 ft S and 100 ft W of NE cor; J. Beard 2, H&TC sur, 300 ft S of No. 1; J. H. P. Davis 20, G. Waters sur, 400 ft N, 45 degrees E of No. 18; 21, 300 ft N, 45 degrees E of No. 19.

Falls County—J. T. Callahan, Arlington Hotel, Marlin, W. Scott 1, J. A. Manchaca, sur-285 ft to N and 2000 ft to W line.

Galveston County—Gulf Prod. Co., Houston,

To be 100% efficient the complete coring tool must be 100% perfect



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WITH an inefficient core barrel, a perfect cutter head is next to useless. While the cutter head performs the vital work down in the hole, upon the core barrel rests the responsibility of getting the results of perfect core cutting up to the surface in shape to be of dependable value. Elliott Service, over a period of many years, has provided a core drill that is perfect in all parts as well as a complete unit, and maintains this perfection every minute of the time that the tool is in your service—without loss of time, without bother, and at the lowest possible cost to you. It insures the perfect performance of a perfect coring device under all conditions, at all times.

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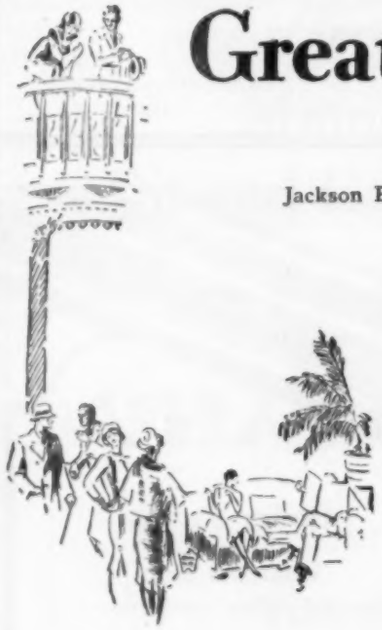

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ZELNICKER IN ST. LOUIS

G. E. Smith 6, M. Dunman sur, 200 ft N of No. 2; 3, 400 ft W of No. 2-A.

Hutchinson County—Marland Oil Co., of Texas, Ft. Worth, Merchant 3, S 38, B 47, H&TC sur, 1320 ft to N of No. 2; 2, 330 ft to N and 8025 ft to N line. Gulf Prod. Co., Ft. Worth, E. B. Johson 17, S 66, B 46, H&TC sur, 660 ft N of No. 13; P. A. Worley 1, S 37, B 3, I&GN sur, 330 ft to W and S lines. J. F. Conklin, 4th St., Amarillo, Johnson 1, S 1, B X,02, H&OB sur, 300 ft to S and W lines. Minnehoma Oil & Gas Co., Atlas Life Bldg., Tulsa, Okla., Johnson 2, S 20, B Y, M&C sur, NW cor of SW½ of SW¼. Phillips Pet. Co., Bartlesville, Okla., S. S. Garland 1, S 77, B 46, H&TC sur, 330 ft to W and 990 ft to line.

Harris County—Gulf Prod. Co., Houston, W. H. Jones 3, J. A. Williams sur, 50 ft to S and W lines; Foster Lbr. 1, E. Votaw sur. P. S. Griffith, Houston, P. S. Griffith 2, B 26, lot 9, A. Smith sur, center of lot. Sun Oil Co., Beaumont, Blaffer-Dennis 32, R. Dunman sur, to deepen.

Irion County—O. F. Cashdollar, Park Bldg., Pittsburgh, Pa., Abe Mayer 1, S 1, B 10, SPRR sur, 1320 ft to N and on E line.

Jim Hogg County—K. & S. Corp., Laredo, R. Holbein 55, S 11, Lot 26, L. Animas sur, 150 ft to N and E lines; 53, S 11, Lot 4, 500 ft E of No. 48; 54, S 11, Lot 22, 330 ft S of No. 52. Houston Gulf Gas Co., Hebbronville, Okla., C. Palacios 2, B 11 and 12, S 291, 516 ft to S on W line B 11. Magnolia Pet. Co., Dallas, K. Martinez 19B, B 276, 300 ft W of No. 16. Rydal Oil Corp., San Antonio, T. Vela 5, B 29, Sur 581, 150 ft to S and W lines.

Jefferson County—Hines Bros. Oil Co., Beaumont, J. W. Parker 1, B 4, J. A. Veatch sur, 548 degrees E of S cor. The Exchange Oil Corp., Weiss Bldg., Beaumont, W. B. Dupdale 1, J. A. Veatch sur, B 5, Lot 6, 10 ft to E and S lines.

Kleberg County—Humble Oil & Ref. Co., Houston, R. J. Kleberg 2, KT&I sur, 150 ft to N and E lines.

Limestone County—Transcontinental Oil Co., Mexia, D. B. Cogdell 9, P. Varela sur, 290 ft N of No. 4; A. E. Rosson 17-A, P. Varela sur, 150 ft to NW and 400 ft to SW line. Magnolia Pet. Co., Dallas, J. R. Stroud 4, P. Varela sur, B X1, 300 ft to SE 1200 ft to NE to well. W. K. Cayton, Groesbeck, J. T. Thornton 1, B 18, J. Boyd sur, 140 ft to E and 250 ft to S line.

Liberty County — Humble Oil & Ref. Co., Houston, Merchant 2, J. Devore sur, 200 ft to E and 50 ft to S line.

Lubbock County — Mike Sharp, Lubbock, Boles 1, S 21, B S, 150 ft to N and W lines.

Montague County—The Texas Co., Wichita Falls, J. W. Maddox 4, C. W. Thompson sur, 447 ft to N and 109 ft to E line; 5, 100 ft to N and 445 to E line; L. A. Gist 1, W. Donoho sur, 300 ft to E and 1000 ft to S line. Continental Oil Co. of Texas, Wichita Falls, E. J. Bouldin A-10, J. Chambliss sur, 150 ft to E and 607 ft to N line; A-9, 400 ft S of No. 7; N. H. Howard A-13, 345 ft S of No. 12; J. W. Rowland 12A, J. Chambliss sur; N. J. Howard 14; J. W. Rowland B7, E. Votau sur, 350 ft N of No. 6. F. H. E. Oil Co., Nocona, N. J Howard 6B, J Chambliss sur, 150 ft to N and W lines. Gulf Prod. Co., Ft. Worth, N. J. Howard 7, E. Votau sur, 300 ft N of No. 6. P. C. Teas and R. G. Stivens, Colorado, C. A. Hardee 1-A, S 85, B 97, H&TC sur, 330 ft to S and E lines. Newblock Oil Co. of Texas, Bristow, Okla., E. J. Pouldin 1, C. Chacon sur. 150 ft to E and S lines.

Mitchell County—Magnolia Pet. Co., Dallas, F. Adams 3, S 11, B 28, T&P sur, 330 ft to N and E lines.

Milam County—Wahpoo Oil Co., Rockdale, J. C. Gross 15, T. J. Chambers sur, 300 ft SW of No. 14; 18, 300 ft SW of No. 17; 17, 300 ft SW of No. 16; 14, 300 ft SW of No. 13; 16, 300 ft SW of No. 15. Newton-Palmer Oil Co., Rockdale, A. O. Dee 6, T. S. Arnett sur, 300 ft E of No. 5. G. P. Mann, Minerva, Bethlehem 3, T. J. Chambers sur, 40 ft to W and 60 ft to N line. Coffield & Hale, Rockdale, A. O. Dee 6, T. S. Arnett sur, 300 ft E of No. 4. Rockdale Dev. Co., Rockdale, G. Lorenz 1, D. A. Thompson sur, 150 ft to N and W lines.

Medina County—Schermerhorn Oil Co., Cosden Bldg., Tulsa, Okla., P. Jungmann 1, S 31,

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J. Degant sur, 150 ft to S and E lines. Medina Oil Co., Hondo, R. Taylor 10, A. Brachet sur, between 8 and 3, 324 ft NE of No. 8.

McCulloch County—M. L. Howell, Lohn, Robert & Moore 9, J. O'Hering, S 281, 300 ft S of No. 8.

Navarro County—G. C. Kent, Corsicana, R. Hardy 8, S. F. McCandless sur, 750 ft to SW and SE lines. Mills & Garrity, Corsicana, Mills-Garrity 127, J. Peoples sur, 160 ft to S and 160 ft to NW lines.

Nolan County—Henry-Zweifel, et al, Magnolia Pet. Bldg., Ft. Worth, T. B. Owens 1, S 130, B 1, H&TC sur, 1320 ft to S and E lines.

Oldham County — Prairie Oil & Gas Co., Borner, Landergin 1, S 46, B h-3 NE¼ of SE¼, 320 ft to E and 365 ft to S line.

Palo Pinto County—The Upshaw Gas Co. of Texas, Mineral Wells, S. E. Edmondson 5, D. Borne sur, 1000 ft to E and S lines.

Refugio County—Houston Oil Co. of Texas, Houston, F. Heard 8, Refugio town tract, 600 ft S 60 degrees W to Beryl well.

Shackelford County — Roesser & Pendleton, Inc., Ft. Worth, W. I. Cook A-10, S 60, ETRR sur, 491 ft to S and 150 ft to E lines; A-11, 2214 ft to N and 1650 ft to W line; A-12, 2566 ft to N and 1650 ft to W line; A-13, 493 ft to S and 450 ft to E line; A-14, 503 ft to N and 1650 ft to W line; A-15, 901 ft to S and 150 ft to E line; A-16, 499 ft to 1 and 750 ft to E line; B-17, 503 ft to N and 1350 ft to W line; B-18, 856 ft to N and 1350 ft to W line; B-19, 862 ft to N and 816 ft to W line; B-20, 503 ft to N and 1350 ft to W line; B-21, 1212 ft to N and 1044 ft to W line; E-3, 150 ft to S and 750 ft to E line; A-19, S 85, 450 ft to S and E lines; A-20, 150 ft to N and W lines; A-21, 150 ft to N and E lines. Milham Corp of Texas, San Antonio, J. F. Sedwick 11, S 1561, TE&L sur, 330 ft to W and N lines; D. G. Simpson 3, S 14, B Asy Ld., 1050 ft to N and 950 ft to E line; Merry & Perini 3, S 1561 TE&L sur, 300 ft W of No. 2; A. L. Wiley 2, S 574, TE&L sur, 1050 ft to NW and 750 ft to SW lines; J. Clausell 18, S 575, TE&L sur, 750 ft to NW and NE lines. W. M. Hill, Albany, J. Pisch 12, S 7, 200 ft SW of No. 11. Humble Oil & Ref. Co., Cisco, W. I. Cook 17, S 84, ETRR sur, 300 ft W of No. 16. Phillips Pet. Co., Bartlesville, Okla., P. Compton 1, S 56, B. Asy Ld., 995 ft to E and 990 ft to S line. Magnolia Pet. Co., Dallas, E. Meyer 4, ETRR sur, S 86, 150 ft to N and E lines. Barney Carter, Ranger, L. C. Huskey 1-B, TE&L sur, No. 549, 750 ft to NE and SE lines.

Stephens County— Tripplehorn Bros., Fort Worth, N. Walker 3, B 6, T&P sur, 300 ft to S and E lines. Williams & Clough, Box 803, Moran, H. Compton 1, S 35, B 7, T&P sur, 450 ft to S and 150 ft to E lines. Edgar T. Hart, et al, F. & M. Bank Bldg., Ft. Worth, E. T. Hart 1, S 4, B 3, SPRR sur, NE cor NE¼ of SW¼ section 4.

Terry County—Kingsland Oil & Potash Co., Box 304, Amarillo, M. V. Brownfield 1, S 7, B A-1, 197 ft to W and 998 ft to S line.

Throckmorton County—M. H. Overlees & Oklavania Oil Co., Albany, J. A. Matthews A and A-1, S 39, C. Ind. Res. sur, 450 ft SE of No. 3, 150 ft NE of No. 1.

Upton County—Gulf Prod. Co., Ft. Worth, E. S. Hughes 1, W. Teer sur, 330 ft to N and W lines; Crier-McElroy 2, S 198, B 2, CCSD & RGNG sur, 330 ft to S and E lines; J. T. McElroy 5, S 197, B f, 660 ft to N and 1980 ft to W line; 1, S 134, B E, 1320 ft to N and W lines; 2, S 155, B E, 1320 ft to S and W lines. Texas Pacific Coal & Oil Co., F. & M. Bank Bldg., Ft. Worth, E. Shirk 2, S 5, B 3, MK&T sur, 330 ft to S and W lines; 1, 330 ft to W and 778 ft to N lines; 4, 1805 ft to N and 330 ft to W line; 3, 1257 ft to N and 330 ft to W line. Roxana Pet. Co., McCamey, E. S. Hughes 4, S 4, W. Teer sur, 884 ft to N and 330 ft to W line; 6, 330 ft to N and W lines; 7, 330 ft to N and 254 ft to E lines. The Texas Co., Fort Worth, R. King 14, S 11, B 3, CCSD&RGNG sur, 660 ft to W of No. 5; 15, 660 ft W of No. 14. Marland Oil Co., of Texas, Ft. Worth, T. E. Shirley 2, S 10, B 3½, CCSD&RGNG sur, 330 ft to W and 990 ft to S lines. Independent Oil & Gas Co., F. & M. Bank Bldg., Ft. Worth, A. S. Bruleson 10, T. C. Jones sur, S 100, B 3, 66 3ft to S of No. 6.

Wichita County—Flint-Texas Oil & Trust Co.,

The BAIRD
Traveling Barrel
PLUNGER TYPE

A positive acting *Upper Valve* with ports which open and close by Sucker Rod motion, that insures a greater volume lift on each up stroke and more fluid from wells that *can't be pumped off.*

The volume lift of the Baird Valve is not effected by *gas, loadstone* or *paraffin* and the valve is particularly adapted to take care of any pumping condition.

This valve can be run in any standard working barrel, or equipped with a special *Lower Cage connection* for use with Axelson, D and B, and Gray Pumping Units.

The positive opening and closing principle eliminates any necessity for *Bumping the Valves* to start the well pumping, and also any chance for *fouling* as the Valve is flushed on each down stroke.

The construction of the unit permits a *Swivel Motion* of the cup assembly in the Working Barrel, which *rotation* insures longer cup life with a decided reduction in Valve pulling for parts replacements.

With this Unit we recommend the *Baird Oversize Standing Valve* and the *Spivey Sand Trap.* Both have *oversize intake openings* permitting more fluid delivery to the Working Barrel for lift.

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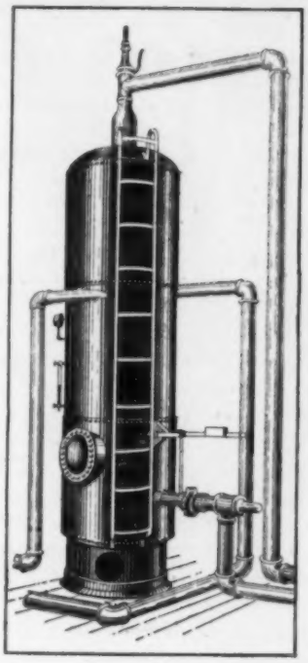

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604 Genesee Bnk Bldg., Flint, Mich., F. P. Warren 9, S B, Taliaferro sur, 165 ft to N and 150 ft to W lines. Culbertson & Co., City Nat. Bank Bldg., Wichita Falls, J. & J. Waggoner 48, S 13, BS&F sur, 300 ft N of No. 47; 47, 50 ft N of No. 46. Magnolia Pet. Co., Dallas, Staley-Beach 43, Carrigan sur; R. S. Allen 54, Wag. Col. sub., to deepen. Pet. Prod. Co., Wichita Falls, D. F Love 2, B 11, W S. Kennard sur, 150 ft to E and 450 ft to N line. Bailey-Damuth Drilling Co., Wichita Falls, J. & J. Waggoner 8, B 14, M. A. Willis sur, 176 ft N of No. 1. T. F. Hunter, Wichita Falls, J & J. Waggoner 22, S 1, GC&SF sur, 50 ft W of No. 21. Continental Oil Co. of Texas, Wichita Falls, S. B. Burnett E-12, S 2, T&NO sur, 150 ft to N and E lines. Llana Oil Co., Burkett Bldg., Ft. Worth, W. F. Scarbrough 1, S 1, B c-22, PCL sur, center of section 1, B C-22. Ramming & Saunders, Staley Bldg., Wichita Falls, C. A. Mertins 1, S 2, GC&SF, BS&F sur, 550 ft to S and 1100 ft to E line. Dale Oil Corp., Wichita Falls, S. F. Burnett 18, J. F. Torrey sur, 400 ft N of No. 14. Clark & Campbell, Brown Bldg., Wichita Falls, K. Franz 11-C, B 6, GC&SF, W&T sub, 931 ft to E and 545 ft to N line. The Texas Co., Prod. Dept., Box 28, Electra, J. W. Stringer 86, B 2, H&GN sur, 1332 ft to N and 1004 ft to W line. J. J. Moran & W. L. Barclay, Wichita Falls, W. Burnett 1, W. Williams sur, 100 ft to S and 150 ft to W lines. W. D. McClure & Sons, Iowa Park, W. D. McClure 9, S 5, GC&SF sur, 150 ft to W of No. 7. L. G. S. Oil Co., Iowa Park, J. F. Boyd 5, B 12, B. N. Ferguson sub, 60 ft N of No. 2. Simms Oil Co., Dallas, B. F. Dutton 9, B 12, DCSL sur, 150 ft to N and 300 ft NE of No. 2. Empire Gas & Fuel Co., Wichita Falls, Pierce-Fordyce 20, S 9, H&TB sur, 340 ft N of No. 11. Panhandle Ref. Co., Wichita Falls, Reilly-Griffin 4, F, Jordan sur, 300 ft N of No. 2. Bonchil Co., Staley Bldg., Wichita Falls, H. Beach 1, CHRR sur, 85 ft N of old location, 200 ft E of No. 3. Grayce Oil Co., Brown Bldg., Wichita Falls N, A. Eades 8, DL&C Co. sur, 150 ft to N and 200 ft to E lines. L. N. Oppenheimer, Harrison St., Wichita Falls, Birk-George 2, B 35, BH&CI sur, 300 ft to W and S lines. Loving & Yates, City Nat. Bank Bldg., Wichita Falls, T. Burnett 3, B 28, H&GN sur, 750 ft to N and 450 ft to W lines. H. P. Olsen, Ward Bldg., Wichita Falls, Ward & Todd 1, lot 116, B 11, GC&SF sur. M. Kleedon, Bradford Bldg., Wichita Falls, J. A. Murray 1, lots 153 and 154, center of lot. P. P. McLean et al, Route 4, Box 8, Wichita Falls, E. F. Gaston 1, J. Aldridge & Rector sur, 150 ft to N and 460 ft to E line. Walter K. Campbell, Brown Bldg., Wichita Falls, Tri-Mutual Oil 1-C, B 14, GC&SF sur 6, 460 ft to N and 150 ft to W line.

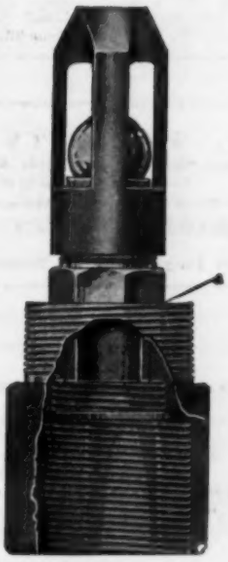
Wilbarger County—Phillips Pet. Co., Bartlesville, Okla., W. T. Waggoner UU-6, S 42, B 4, H&TC sur, 200 ft to N and 110 ft to E line; 7, 200 ft to N and W line; QQ-15, S 47, B 4, H&TC sur 282 ft W of No. 10. Humble Oil & Ref. Co., Wichita Falls, W. T. Waggoner 16, S 42, B 4, H&TC sur. Prairie Oil & Gas Co., Box 368, Ranger, Shamrock 4, S 43, B 4, H&TC sur, 444 ft SW of No. 3.

Webb County—Houston Oil Co. of Texas, Houston, S. Benavides 2, Sur 683, 150 ft to N and E lines, NW¼. W. F. Morgan, Sames-Moore Bldg., Laredo, C. A. Webster 3, S 684, 100 ft N of well in SE cor.

Wharton County—Weed-Gayle Oil Co., Beaumont, L. Bay 5, Lot 14, Mo. Ld. Co., S. F. Austin sur, 290 ft E of Bay No. 1; C. and J. Feltz 8, lot 20, 225 ft to S and 455 ft to E line.

Young County—Schermerhorn Oil Co., Tulsa, Okla., Prideaux 3, S 1, Col. Tap sur, 300 ft W of No. 1; 1, S. Tynes sur, 150 ft to N and W lines; 3, Col. Tap sur, S 1, 450 ft W of No. 1. Magnolia Pet. Co., Dallas, I. C. Little 12, I. Holman sur, 400 ft SW of No. 10. Madden & Hunt, Olney, S. M. J. Benson 14, B 1451, TE&L sur, 300 ft N of No. 11; 15, 300 ft N of No. 13. Tidal Oil Co., Ft. Worth, S. M. J. Benson 6, S 1451 TE&L sur, 300 ft N of No. 5. A. W. Johnston, Graham, S. M. J. Benson 2, S 1450 TE&L sur, 156 ft to N and 497 ft to W line. Jeffers & Jeffers, City Nat. Bank Bldg., Wichita Falls, H. K. Weems 1, TE&L sur, 900 ft to W and 450 ft to S line. Jacob Oil & Gas Co., Graham, L. H. Hatfield 3, R. M. Kutch sur.

Foreign Countries Demand It



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Alamo Iron Works Installs Special Machine

San Antonio, Texas—In order to further the efficiency of their plant, the Alamo Iron Works, with headquarters here, has installed a new pipe perforating machine, believed to be the only one of its kind in existence. The machine was designed by the company's engineers.

The machine was designed to perforate tubing with various size holes, one fourth inches to three-quarters inches in diameter, and spaced anywhere from one to six inches center to center, drilling the holes in a perfect, straight line parallel to the axis and four rows of holes at one time on the four quarters. By means of an index head in the carriage, any number of rows mays be drilled divisible by four.

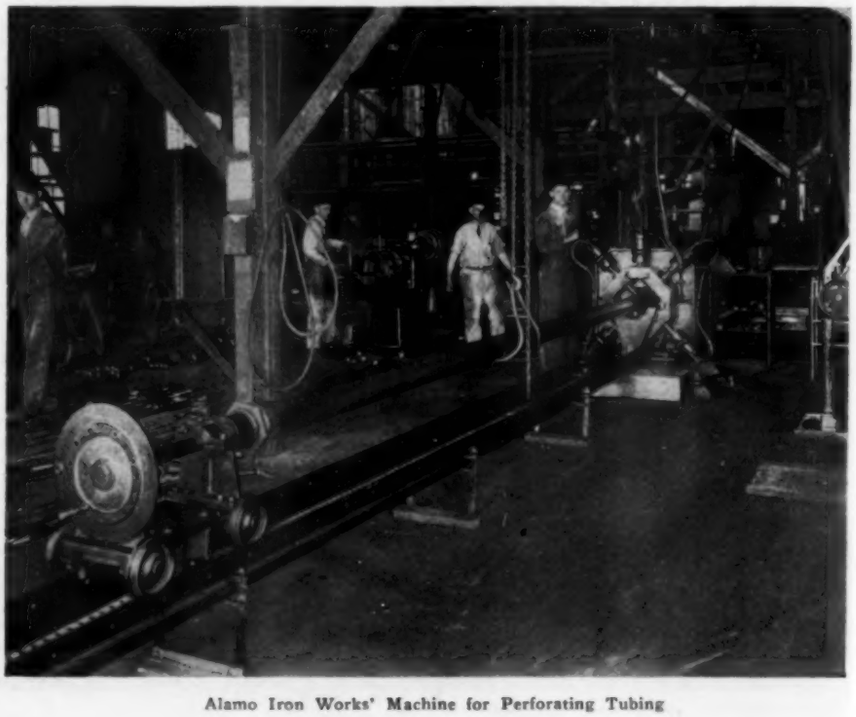
Any size pipe from two to eight inches inside diameter may be drilled with the machine. The four spindles are driven by bevel pinions from one bevel gear connected to a pulley on the back of the machine. The feed to the drills is by four independent air cylinders using compressed air at a pressure sufficient to feed the drill. By this means a dull drill with a given pressure will feed slower than a sharp drill, but avoids a possibility of breaking the drill. It has been necessary to design a drill with a special shank that will not become loose during operation.

The feed of the drills are under the control of one three-way valve to the four drill spindles and the exhaust from the same is utilized to discharge the drillings from the machine into a receptacle below, which also catches the drilling compound. This drilling compound is then pumped to a filter at a higher elevation before returning to the drilling machine.

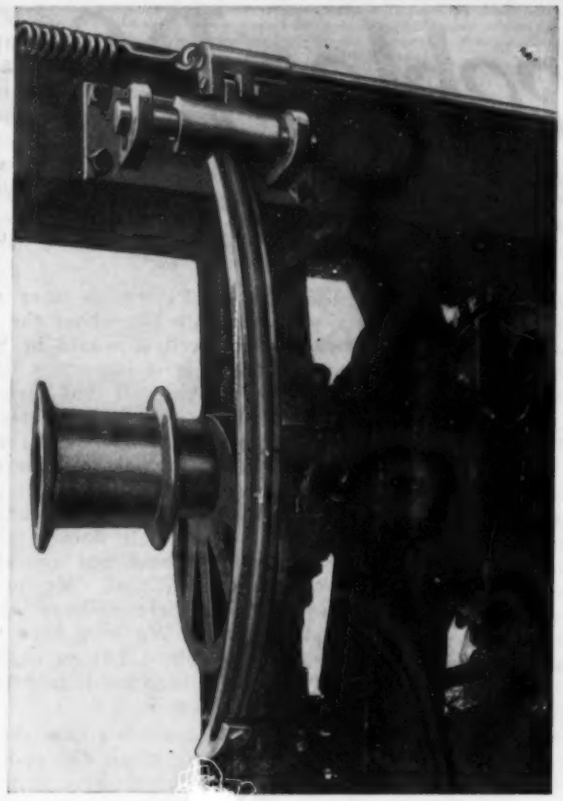
Spacing is accomplished by ratched wheel and lever with a spindle stop for the various spacings longitudinally. An extra air cylinder at the top of the machine with constant air pressure upon it acts as a vise against an adjustable sliding block below for the purpose of holding the pipe in a rigid position. The result is that holes are drilled in a piece of pipe or casing equally spaced both horizontally and circumferentially.

The machine is operated by one man and has a capacity of about 1000 holes per hour.

Mr. and Mrs. Harry A. Riggs, 115 East Sixth Street, Bartlesville, Oklahoma, entertained the members of the land and geological department of the Indian Territory Illuminating Oil Company with a dinner party November 17, in honor of G. H. Blankenship, who has recently resigned his position as superintendent of the land and lease division of the ITIO Company to take over the management of a new company to be known as the Liberty Royalties Corporation with headquarters at 1107 Atlas Life Building, Tulsa. Mr. Blankenship has been connected with the land department of the ITIO Company for the past two years and has made a host of friends who regret to see him leave. Prior to his coming with the ITIO Company he was in the land department of the Gypsy Oil Company for approximately six years, working under the supervision of D. N. Mitchell. As a token of friendship and remembrance, the members of his department gave Mr. Blankenship a beautiful brief case.



Alamo Iron Works' Machine for Perforating Tubing



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The MacClatchie Automatic Cat Head pays for itself in the saving of time and rope in the first 3,000 ft. of hole.

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LETTERS OF Paul Peebles P.S.G.

My dear Cleopatra:

Cleo, honey, I have not found out for sure yet whether I will go to the A. P. I. meeting at Tulsa or not.

I was kinder thinking about going maybe but now I don't know whether I want to go or not after I have seen a copy of the program which Mr. Farish and Mr. Welsh has sent out.

I have been wondering what Bill Farish was doing up in New York lately so that I could not never get in to tell him something about gravity and price which I want him to straighten it out so that heavy oil will bring more than light oil because the oil which is coming from my pa's farm is heavy and if he gets a better price for his royalty well maybe there will be a better chance of me getting more of it. Of course it is pretty soft for me to be getting checks every month from the bank like I do, but if the old man was to get more for his oil well he might get interested in sending me a little more which I could use prety handy of course.

But honey it aint no selfish interest I have in the matter, because really I do think that heavy oil ought to be worth the most because it is made out of more solider and more durable hydro-carbons and works easier in gravity gathering systems and wont freeze up so easy.

But I am getting clean away from the subject because I thought about Bill Farish being up in New York. Everybody thought he was up there talking to Walter Teagle about building some refineries and pipe lines down here in Texas, but I see by the program that what he was up there for was to fix it with the A. P. I. program committee so that Wallace Pratt will be on the geology part of the program at the meeting at Tulsa.

With him having the advantage over me of being a buddy with the president of the A. P. I. and having a pull more or less, well of course Wallace will get to make the talk about the nation's petroleum supply from the Gulf Coast.

But honey you know who is the best man for that, so don't you feel bad because they picked somebody else, because you can see how it was worked.

But you must not blame either Bill or Wallace, honey, because they are both good friends of mine, and the reason they have to stick together in this business is that they both work for the same company and naturally each one has to tell how good the other one is, like they was law partners.

I do not know if under the circumstances they will need me up there at all. They are going to sing the same old song, "The Nation's Petroleum Supply—A Geologic Analysis," only now it is getting to be a semi-annual event to review the estimates and it has already been done so many times that people are beginning to believe that some people who talk about how much oil there is are only guessing.

So I don't know what tune this here quartette they have organized is going to sing it to this time, only I see some remarkable technique in arranging the singers. There are Wallace Pratt and C. R. McCollom. One is from the Gulf Coast and the other from California and both is from the heavy oil district, so naturally they will sing base. Then to balance them is Max Ball and Luther White. They are both going to talk about the mountain oil sections and will carry the high tenor notes.

And the funny part about it is that while these fellows is around tuning up to sing their little ditty about where the oil is coming from, it is going to be a big bunch of serious minded fellows gathered around in various parts of Tulsa trying to figure out where all the oil they have already got is going.

And of course there will be a whole lot more who will be more concerned over a more potent liquid with a lower flash and fire who will not be caring nothing about where it comes from and attending to the going.

It is with these last goes my main regrets that the press of other matters is liable to keep me away.

It is one thing I do hope about the standardization program that the API is going to work on again, and that is that they will standardize on how much oil we ought to expect to eventually recover and how long it is going to last. It is a subject that just keeps on coming up every time two oil men get together or congress runs out of something serious to worry about. And as fast as they decide on it they find out that more oil is piled up on top of the ground the next week than they thought would be from now to the end of time. Like forinstance Mr. Hoover helped Mr. Work make a fool report to the president and after that he went out to Tulsa and saw some oil and started right away talking about changing the law so that some companies could get big enough to handle the load.

So honey if they had asked me to be on the program at Tulsa to talk about how much oil it is left, well I would have had to tell them nothing doing because I am tired of making guesses like that and then have some fool oil well driller go out and make a liar out of me.

Now if the API was to want some real scientific talk like about the continental drift, well it would be some sense to that. It is important to the oil business to know if that theory is good, and they ought to be told about it so they can choose up sides on it and everybody say whether he believes it or not. Us geologists have been worrying about the minor details like locating faults and salt domes for all these years and have not considered the continental drift atall. Me for one, honey, can see where we have made a serious mistake. We have been hired to find oil, of course, but we ought to be giving our time to more importanter subjects like the drift.

Now one point which I have thought about which may mean the ruination of the world is the probability that if the world is loose inside it might be revolving at a different speed and the inside part slipping around like a ford drum in the bands. Well if that is the way, well we ought not to be taking the oil out because the oil is what keeps her slipping and when the surface gets rough we will have a earthquake all over the world at one time. I am going to do some serious research on this point and maybe I can help save the world from disaster by finding out that it can all be fixed if we will just pour the crank case drainings back down in the oil wells after they get dry. That would solve two problems at once, and then all the world will need to make it happy is a place to put dull razor blades and a place to park.

Well, honey, I am sure you would rather that I would tell you about my own personal affairs, but I see that this here coupling is just about all used up with me telling you about scientific facts and the A. P. I meeting. But I will make that up to you sometime when I do not have nothing else to tell you about, because this here continental drift, like I told you, is a important matter and it is up to me to lay wake nights till I figure it all out. Then I will tell you just how it is.

Well, like I said, I do not know if I will go to Tulsa or not, but if I do go you will know, honey, that I am among them present, and after that quartette gets through with their song about how much oil there is I may sing them a solo on how to find it and how much they will be getting for it if they don't slow down some.

Your loving Paul.

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SQUEAKS FROM THE BULL WHEEL

Designing Flapper (to eligible young man): When you find a girl like the one your mother used to be, you'll marry her?

The Youth: Not necessarily. Mother shot father.

(N. B.—She had to laugh at that.)—Life.

"I can't stand anything but bonded stuff," said the stenographer as she reached for another sheet of paper."—Standard Gasoline Booster.

"There are no more enterprising young men. Why I remember when it was a common thing for a young man to start out as clerk and in a few years own the business."

"Yes, but cash registers have been invented since."

Mrs. Newlywed, at dinner table: "I was going to have some sponge cake as a surprise for you dear, but I confess it was a failure."

Mr. N.: "What was the matter?"

Mrs. N.: "I don't know for sure, but I think the grocer sent me the wrong kind of sponges."

An Unnecessary Confession

The health officer approached the negro impressively with this: "Have you ever been inoculated?"

"Only fo' times, boss man."

"Four times? For what?"

"Well, suh, once for stealin' chickens—only it was annoder feller wot got dem particular ones—once for salt and batter, and twice when I jined de colored Masons."—Pure Oil News.

Hints for the Housewife

A bowl of beer placed in the kitchen will entrap beetles, says a weekly paper. The convivial insects refuse to go home till morning, and then can be easily caught by an early rising householder.—Pure Oil News.

She: I know I'm going to adore those silk stockings you're sending me.

Her Friend: Well—I hope they come up to your expectations.—Life.

Must Have Been in Atlanta

Last winter I went to collect an account from a business man and he was out. His wife was in charge of the place and the following conversation took place:

"Good morning, Mrs. W., is Mr. W. in?"

"No. What did you want?"

"I have an account for him."

"How much is it? I pay bills when Mr. W. is not in."

"Ten dollars."

"What is it for?"

"It's for Coke."

"Coke? We do not owe it."

"I beg your pardon but you do. I have a signed invoice if you care to see it."

"Well, we don't owe it. I don't drink the stuff myself and Mr. W. wouldn't drink that much in a year.—American Refining Co. Eagle.

First Student—That girl you've started going with is a smart li'l gold-digger.

Second Pauper—Then all I've got to say is, she's a damn poor geologist.—Colorado Do Do.

Didn't Know His Lines

Distinguished out-of-town guest (speaking at banquet): "Your beautiful little city appeals to me. As we came in on the train I remarked to my wife: 'Ah, my dear, you and I ought to be living on the top of one of these magnificent hills'."

Toast Master (in hoarse whisper): "Go easy; we've got only two hills in town, the insane asylum on one and the sewage works on the other."

He: "I come to bring warmth and light into the bleakness of your home."

Romantic Spinster: "Oh, you dear—"

He: "Nix on the love stuff, old lady. I'm the installation man for the gas company."

"Had I better give 'er the gas?" one of them asked.

The other man glanced concernedly at the curves that lay before them.

"Maybe you hadn't better, Doctor," he said. "She has a weak heart."—Lehigh Burr.

"The Ides have come," exulted Caesar, opening a shipment of collars.

"Ah, but wait till you see the new Arrows," answered Brutus.—Illinois Siren.

"I hear that the sailor friend has had rough sailing. His wife ran away, didn't she?"

"Aye, aye! You see he took her for a mate, but she proved to be a skipper!"

Like Their Makers

He dropped his cane on a sidewalk and made several vain attempts to stoop over to pick it up. An obliging observer picked up the cane with the remark:

"What's the matter? A little lumbago?"

"No; I bought these suspenders in Scotland and they won't give."

Domestic Relations

Judge: "Say, Abe, this is a purely domestic affair and it is a shame to get a divorce on such petty charges. Why don't you and Lindy settle it out of court?"

"Yessuh, jedge—ah 'grees wif yo'—but every time we starts settlement de police allus stops us!"

Not Forgotten

Wife: "If I were to die I wonder would you remember me for long?"

Husband: "I think so dear—the doctor says my indigestion is incurable."

The Difference

Florida Farmer: "Say, Jake, what is that new building you're putting up?"

"Wal, if I can rent it, it's a bungalow. If I can't it's a barn."

There's a Limit

A retail dealer in leather goods, doing business in Baltimore wrote to a firm in southern Massachusetts ordering a carload of merchandise.

The firm wired him: "Cannot ship order until last consignment is paid for."

"Unable to wait so long," wired the merchant. "Cancel the order."

Officer: You were making forty-five. I'll have to pinch you—

Martha: Oh, if you must, please do it where it won't show.

Not Needed

Tourist: We've climbed to the top of this mountain to see the view and we've forgotten the glasses.

Scottish Guide: Och! Never mind, there's nobody about. We can just drink oot o' the bottle.

Better Half: What's the matter with you, John?

I feel devilish.

That's fine. Go down and fire up the furnace.

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Bunker Oils	Spindle Oils	Cup Greases	Pipe Coating
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Miners Oil	Engine Oils	Axle Greases	Roofing Cement
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